QLS-8100 Xe

digital color label printer

Operation & Setup Guide

QUICKLABEL® SYSTEMS

AN ASTRO-MED INC PRODUCT GROUP

Manufacturing and Perfecting Thermal Transfer Printers Since 1971

QLS-8100 Xe

Digital Color Label Printer

Operation & Setup Guide

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QuickLabel Systems, An Astro-Med Inc. Product Group, warrants this product against defects in materials or workmanship for a period of one year from the date of original purchase. This warranty excludes printhead and print platen, which are separately warranted. If the customer discovers a defect, this defect must be reported promptly to QuickLabel Systems.

QuickLabel Systems will, at its option, repair or replace the defective component at no additional charge. Repair parts and replacement parts will be furnished on an exchange basis and will be either reconditioned or new. All replaced parts become the property of QuickLabel Systems. Travel, freight and other expenses related to warranty repairs are not covered. Service Agreements are available for purchase and may provide on-site service and/or loaner equipment.

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This warranty is void if the product has been damaged by accident, abuse, neglect or misapplication, or if the product has been improperly installed, or

if the product has been modified without the express written permission of QuickLabel Systems.

QuickLabel Systems makes no warranty, either express or implied, with respect to this product's fitness for a particular purpose.

Obtaining Service

To obtain warranty service, call QuickLabel Systems Technical Support at 401.828.4000 or Toll-Free in the USA and Canada at 877.757.7978. QuickLabel Systems, An Astro-Med Inc. Product Group, is not responsible for products lost or damaged in transit.

Contact Information

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Tel: 1.401.828.4000
Fax: 1.401.822.2430

Web: www.quicklabelsystems.com
Email: support@quicklabelsystems.com

Ownership Information

Congratulations and thank you for your business. Your purchase of a quality QuickLabel Systems product is an investment in the finest of state-of-the-art printing and labeling technology. Please use the spaces below to list the model name/number and serial number of your product.

Model Name/Number: _____

Serial Number: _____

DECLARATION OF CONFORMITY

Manufacturer's Name: Astro-Med, Inc.

Manufacturer's Address: Astro-Med, Inc.
                                           600 East Greenwich Avenue
                                           West Warwick, RI 02893 USA

declares that the product

   Product Name: 8100 Xe Printer

conforms to the following product specifications:

   Safety: EN 60950-1

   EMC: EN 55022, Class A
                                           EN 55024

Relevant Directives are 89/336/EEC and 73/23/EEC

Steven Holbrook / Quality Assurance Manager

Steven G. Holbrook

                            10/23/2003

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Table of Contents

QLS-8100 Xe

Chapter 1:
Quick Start

Congratulations ! You have purchased QuickLabel System's best digital color label printer - ever. The QLS-8100 Xe represents years of careful research and development to perfect digital color label printing technology.

The QLS-8100 Xe represents . . .

QuickLabel Systems' Best Image Quality - Ever The all-new print station design maintains a high degree of color registration - down to ± 1 dot throughout an entire print run.

QuickLabel Systems' Enhanced RibbonRation™ system which further economizes the use of ribbons making it even more cost-effective for long and short label runs.

QuickLabel Systems' Easiest Printer to Use featuring a virtually adjustment free platform that ensures consistent, smooth operation and repeatable print quality, day after day.

QuickLabel Systems' Most Reliable Printer featuring industrial-grade, all-metal construction, large rollers, long-life bearings, and highly accurate media sensing just to name a few enhancements resulting in trouble-free operation.

This Operation and Setup Guide provides all the information you will need to operate and maintain the QLS-8100 Xe. This Quick Start chapter provides a step-by-step guide for experienced or trained users to quickly get up and running.

QuickLabel Systems media

Your QLS-8100 Xe will provide correct print quality only when used with Genuine QuickLabel Systems Labels, Tags and Thermal Transfer Ribbon. QuickLabel Systems Thermal Transfer Ribbon is designed to function as an integral part of the QLS-8100 Xe printing system and is formulated to provide the most vibrant and durable image while helping to maintain long printhead life.

QuickLabel Systems offers a unique media purchase program called a **Media Requirements Contract (MRC).** With an MRC, your media costs will be tailored to annual usage, not individually-purchased quantity. The benefit to you is fixed low pricing for the products you plan to purchase anyway. The benefit to us is the ability to plan our production more efficiently. You will also receive discounted printhead replacement for the duration of the contract.

Some benefits of an MRC include:

Flexible Ordering - Order what you need, when you need it. An MRC never locks you into purchasing media you don't want. There is no minimum spending requirement, no frequency requirement, no advance payment, and you may add new items at any time.

Freeze Your Costs - Your one-year commitment to purchase your ribbons and labels commits us to sell you media only at the contracted price. And, with an MRC your costs will remain fixed, so you can safely budget expenses as far as a year in advance.

Discounted Printhead Replacement - As an added incentive, QuickLabel Systems guarantees you discounted replacement of all printheads worn by normal use during the life of your contract. You can be confident that your printhead wear will be "normal" because you will be using only the ribbons and labels for which your printer was designed.

Fast Delivery - Your MRC is designed to let you place your label and ribbon orders as you need them, anywhere from a week to a year in advance of shipping. You decide the products you need and leave the rest to us. Your ribbon and labels will arrive on schedule so you never experience production downtime.

Contact your QuickLabel Systems Media Sales Specialist for more information or to enroll in the MRC program.

Quick Start Guide

If you are an experienced user of a QuickLabel Systems Digital Color Printer or you have attended QuickLabel Systems College training, use this Quick Start Guide as a reference to begin producing beautiful color labels immediately.

In general, these operations should be performed in the sequence listed below, skipping over any items that may have been previously completed.

Page 2-2   **Unpack the printer**

Page 2-7   **Install the media unwind mandrel**

Page 2-8   **Connect the water cooling system**

Page 2-11   **Connect the AC power cord**

Page 2-12   **Connect the host computer interface**

Page 2-17   **Connect the compressed air source**

Page 3-2   **Load thermal transfer ribbon**

Page 3-4   **Load label or tag media**

Page 3-7   **Adjust the media sensor**

Page 3-8   **Calibrate the printer to the appropriate media type**

Setup software parameters

Appendix D   **Printing from Color QuickLabel 99 Pro**

Appendix E   **Printing from a Windows application with the QuickLabel Systems Windows Printer Driver**

QLS-8100 Xe

Chapter 2:
Physical Setup

This chapter will help you to familiarize yourself with the orientation and components of the QLS-8100 Xe. This chapter also covers the various connections that need to be made to the printer before it can be operated.

This chapter provides the following information:

- Instructions on unpacking and orienting the printer
- An overview of the features and components of the printer
- Instructions for connecting the water cooling system to the printer
- Instructions for connecting power and communication cables to the printer
- Instructions for connecting compressed air to the printer

Unpacking the Printer

1   Remove the printer from the packing carton.

2   Ensure that the printer has suffered no visible signs of damage during shipment.

3   Verify that the following items have been included in the packing carton:

AC Power Cord

Centronics Parallel Cable (IEEE-1284)
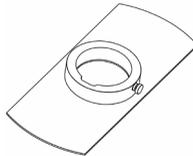
Media Retainer

Memory Card

Warranty Registration Card
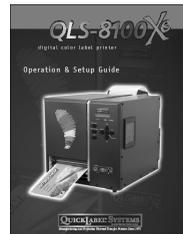
Operation & Setup Guide

Windows Printer Driver Diskette
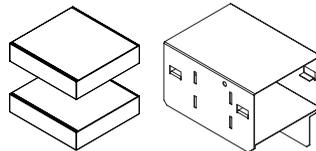
Water Cooling System Kit

Note: Retain all packaging should the printer need to be transported at a later time.

Printer Orientation

The illustration below is provided to orient you to the QLS-8100 Xe printer. The keypad and display is the printer's user interface.

Right side of printer

Left side of printer

Front of printer
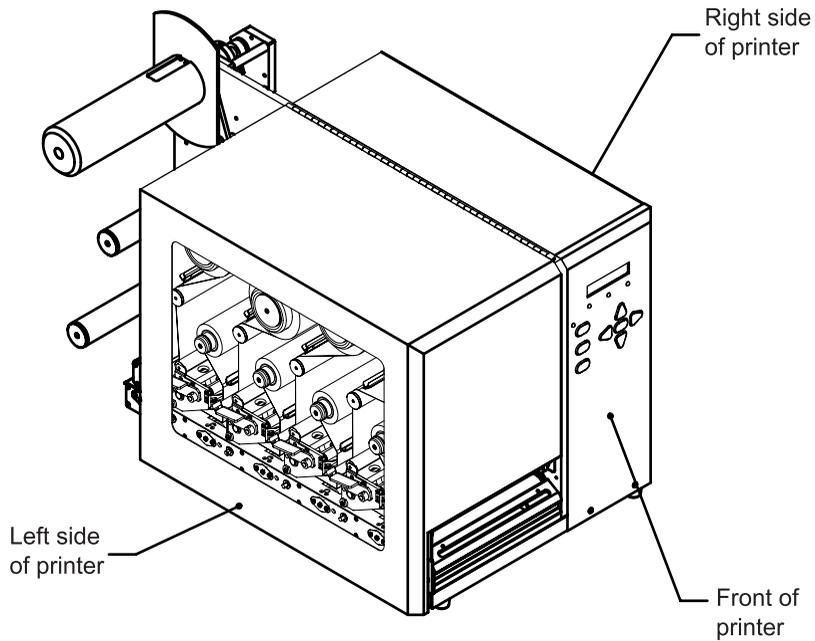
Features of the QLS-8100 Xe

Facing the left side of the QLS-8100 Xe with its cover lifted, you can view the media unwind, print stations, and related mechanical parts.

The items below identify the QLS-8100 Xe components as shown in the side-view illustration on the following page:

1 Media Retainer
2 Media Supply Mandrel
3 TTR Rewind - print station # 4
4 TTR Supply - print station # 4
5 TTR Rewind - print station # 3
6 TTR Supply - print station # 3
7 TTR Rewind - print station # 2
8 TTR Supply - print station # 2
9 TTR Rewind - print station # 1
10 TTR Supply - print station # 1
11 Print Station Lift Lever
12 Drive Roller Lift Lever
13 Drive Roller
14 Pinch Roller
15 Print Station # 1
16 Print Station # 2
17 Print Station # 3
18 Print Station # 4
19 Cover Switch
20 Media Speed Roller
21 Media Sensor Assembly - Gap and Reflective
22 Lower Media Guide Roller
23 Media Dancer Arm
24 Upper Media Guide Roller

Side view
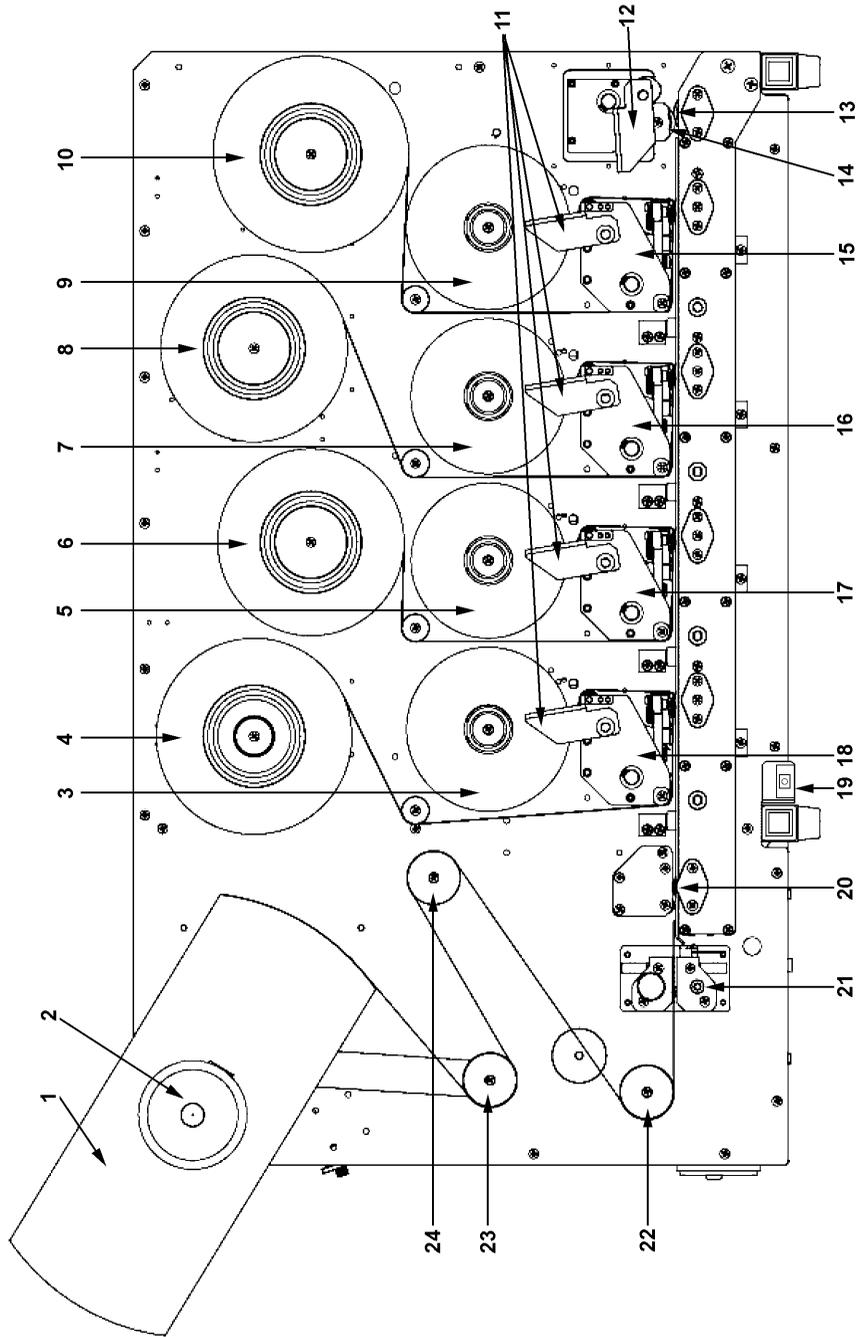
Rear Panel View

Facing the rear panel of the printer, you will observe the air intake regulator, power connection, and other interface connections as shown in the illustration below.

Air Regulator

Memory Card Slot

Ethernet Port

Air Pressure Gauge

Parallel Port

Utility Port

Serial Port

Water Pump Connectors

Water Pump Power Connectors

On / Off Switch

AC Power Input
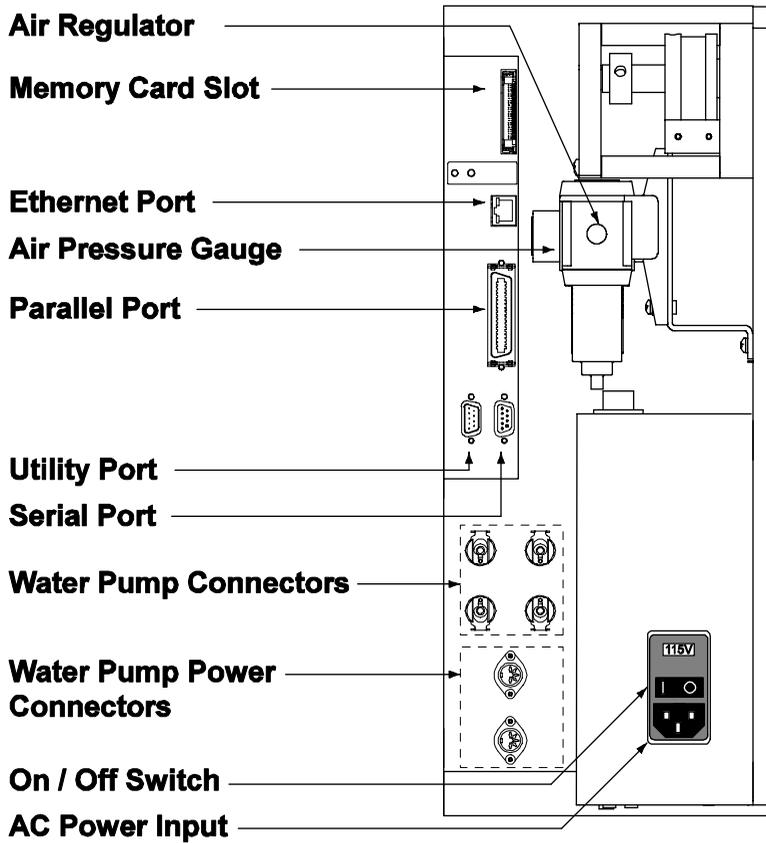
Installing the Media Unwind Mandrel

Your QLS-8100 Xe was shipped with the media unwind mandrel uninstalled to protect it from damage during transit. The mandrel is easily installed by following the procedure outlined below.

Tools Needed:

1/8″ Allen Wrench

1   Slide the media unwind mandrel onto the shaft until the back plate flange is seated firmly against the collar located on the inside of the shaft. The outside of the shaft should be flush with the surface of the mandrel.

2   Firmly tighten the supplied Allen set screw against the shaft.

Installing the Water Cooling System

The cooling system circulates cool water through the printhead mounting blocks to aid in maintaining optimum printhead temperature.

The water cooling system is shipped uninstalled to protect it during transit. Use the following instructions to install the water cooling system.

Tools Needed:

Phillips Screwdriver

It may be helpful to refer to the following assembly diagram when installing the water cooling system.

#6 Pan Head Phillips Screw (3) & #6 Flat Washer (3)

#6 Flat Head Phillips Screw (1)

Mounting Screws Furnished with Cooling System Kit (4)
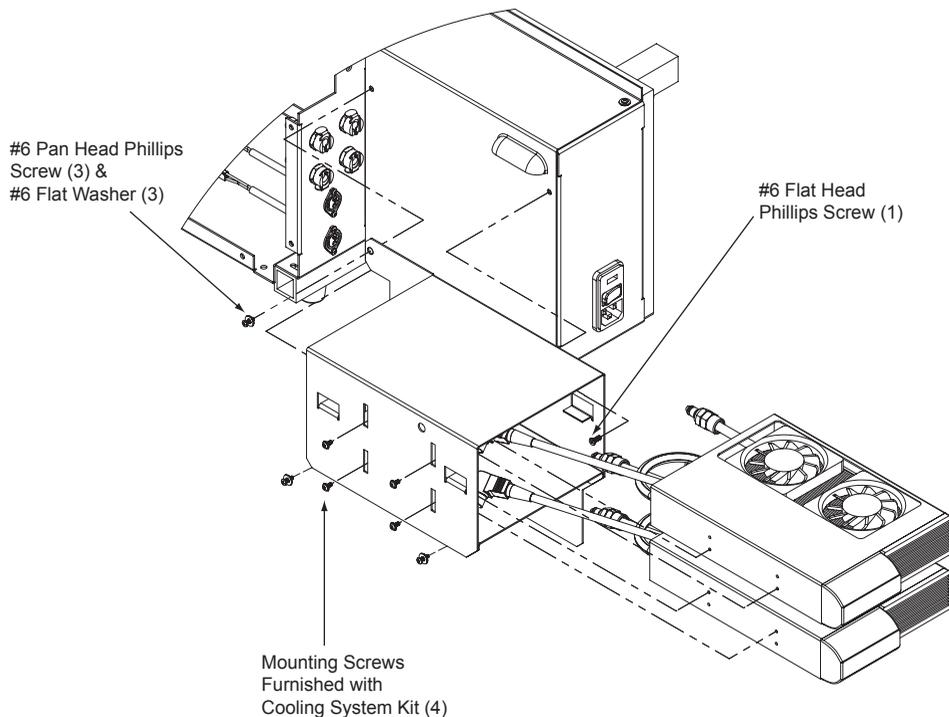
1 Fasten the water cooler mounting bracket to the printer using the three #6 Pan Head Phillips screws and #6 Flat Washers.

Then use the #6 Flat Head Phillips screw to fasten the inside of the mounting bracket to the printer. A screwdriver hole is present on the outside of the mounting bracket.

2   Insert the water cooling drives into the mounting bracket. The wires and water tubing must face toward the printer.

3   Connect the water tubes for each cooling drive to the printer. Then connect the power cord for each cooling drive to the printer.

The top cooling drive water tubes connect to the top water connectors on the printer. Likewise, the water tubes from the bottom drive connect to the lower water connectors. Push firmly on the connectors to snap them into place.

The top cooling drive power cord connects to the top power connector on the printer. Likewise, the power cord from the bottom drive connects to the lower power connector.

Top Water Cooling Drive
Water Tube Connectors

Bottom Water Cooling Drive
Water Tube Connectors

Top Water Cooling Drive
Power Connector

Bottom Water Cooling Drive
Power Connector
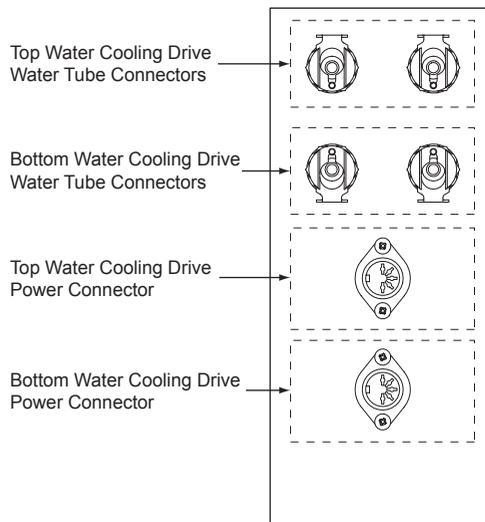
4   Use the Mounting Screws to fasten the water cooling drives into the mounting bracket. Two screws are used for each drive.

5 Remove the reservoir cap from each cooling drive, and then fill them with the supplied distilled water. Ensure that the water level is between the HIGH and LOW indicators. Then replace the reservoir caps.
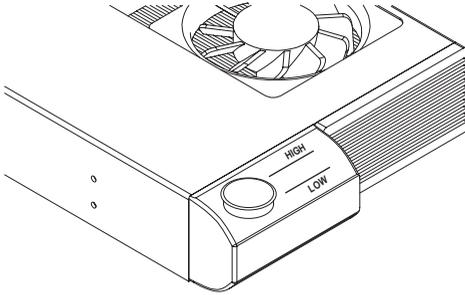
Warning: Only use non-conductive, distilled water. Other liquid can cause oxidation or corrosive damage to the cooling mechanism.

Note: Once the remaining setup processes in this chapter are complete, and the printer power is turned on, check the water level. The water level may lower due to the liquid entering the printer. It may be necessary to add more water to the reservoirs.

Note: During printer operation, the water level must stay between the HIGH and LOW indicators. If the water level is below the LOW indicator, the cooling system will become ineffective. It is recommended that you check the water level periodically and add water if necessary.

Warning: If the printer will be shipped to another location, it is necessary to uninstall the water cooling system and purge the remaining water from the printer.

For more information about uninstalling the water cooling system, refer to *Chapter 7: Maintenance and Repair*.

Power Connection

1   Locate the AC Power Input at the bottom of the rear panel.

2   Plug the power cord into the printer. Be sure to use only the AC Power Cord supplied with the printer. Ensure that the power switch is in the OFF position before proceeding to the next step.

3   Connect the opposite end of the AC Power Cord into an earth grounded AC receptacle. Do not power the printer on until you have finished making the remaining connections described in this chapter.
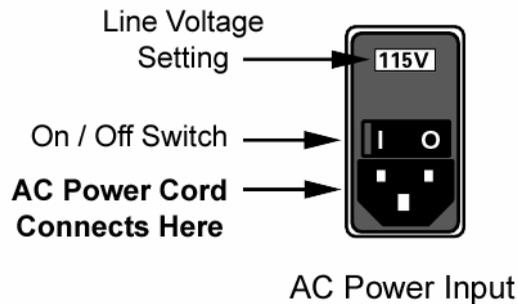
Warning: Do not use any type of receptacle adapter or AC Power Cord that has not been supplied with the unit. Doing so can result in damage to the printer.

Note: The printer has been set at the factory for the correct line voltage for your country. The voltage setting can be viewed in a window at the top of the AC Power Input. If this setting needs to be changed, refer to the procedure in Chapter 7 of this manual.

Note: It is recommended that an AC line conditioner / surge suppressor is used. Select a unit that is capable of handling the power requirements of the printer and protecting from surges and spikes. A VA rating of at least 350 VA is required.

Computer Connections

The parallel interface is normally the primary method of sending data from the host computer to the printer. A high-speed parallel cable (IEEE-1284) is supplied with the printer.

The RS-232 Serial Port is a secondary method of sending data to the printer, if a parallel port is not available on the host. Data transmission via the serial port is much slower and therefore, the parallel port is recommended.

An ethernet connection is also available to provide a high-speed, bi-directional connection to the printer in networked environments.

Centronics Parallel Port

1   Using the parallel cable supplied with the printer, connect the larger connector to the parallel port on the printer.

Note: Only the supplied parallel or high-speed IEEE-1284 parallel cable should be used to ensure reliable performance. This cable should be stamped with an "IEEE-1284" marking to indicate that it is a high-speed parallel cable.

2   Lock the two metal rings on the parallel port into the connector to secure it to the printer.

3   Connect the opposite end of the parallel cable to the host computer. Be sure to note which port (LPT1, LPT2, etc.) you have connected the printer to as this will later be needed for driver or software setup.

Note: The maximum recommended parallel cable length is 10 feet (3 m).

RS-232 Serial Port

1   Using a standard (straight through connection) RS-232 serial cable, connect the appropriate mating end of the cable into the printer.

2   Tighten the cable securing screws into the serial port to secure the cable to the printer.

3   Connect the opposite end of the serial cable to the host computer. Be sure to note which port (COM1, COM2, etc.) you have connected the printer to as this will later be needed for software setup.

Pin Assignments

Pin	Signal
1	N/C
2	TXD
3	RXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	N/C
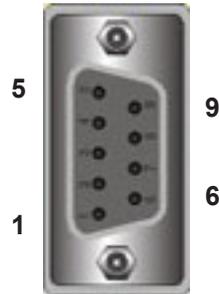
Note: The maximum RS-232 serial cable length is dependent on the communication parameters being used. For best performance and reliability, only serial cables supplied by QuickLabel Systems should be used.

Ethernet Port and TCP/IP Communication

The QLS-8100 Xe is a 10Base-T device that provides a 10Mbps ethernet connection. Using hubs and routers, the printer can be connected directly into a network using standard Category 5 (CAT5) cable or similar with a RJ-45 connector.

TCP/IP (Transmission Control Protocol/Internet Protocol) communication provides a direct link to the QLS-8100 Xe printer via the ethernet port. Using standard twisted-pair wiring, the printer can be connected to your existing network and shared by all network users.

This method of communication provides a fast, bi-directional, real-time link to the printer. However, it does not provide print server functionality. If you require print server functionality and protocols other than TCP/IP, refer to the following section for print server information.

Every ethernet device on the network contains a unique ethernet address known as the MAC address. This address is programmed at the factory and cannot be modified. Additionally, each device contains a TCP/IP layer identified by a configurable IP address. Every TCP/IP device on the network contains a unique IP address.

Your network administrator must assign IP addresses for your QLS-8100 Xe printers. This is a common task performed on computers, printers, fax machines, etc. to identify the devices by their unique IP addresses. The QLS-8100 Xe printer does not support Dynamic Host Configuration Protocol (DHCP), which automatically assigns an IP address to each device on the network.

For simple printer/computer networks, you can assign IP addresses and subnet masks manually and ensure that all devices are identified by unique addresses. The default gateway address can remain at the default factory setting of 0.0.0.0.

For detailed information on the topic of networking, refer to documentation applicable to your network environment and/or contact your network administrator.

Print Servers

The QLS-8100 Xe can be connected to a Local Area Network (LAN) using an appropriate external print server.

The print server must be capable of passing ASCII data to the printer without corrupting or modifying the data stream. Any printer language emulations such as PostScript™ or PCL™ should be disabled.

QuickLabel Systems can supply a compatible print server to be used in PC-based or midrange/mainframe-based host environments. Please contact QuickLabel Systems for additional information.

QuickLabel Systems PS-ENET Print Server for Windows Networks.

QuickLabel Systems Print Server for AS/400 Networks.

Utility Port Connection

On the rear panel of the printer, the Utility Port permits connection to external devices such as the optional QuickLabel Systems Cutter and Cutter/Stacker or a label applicator system. The assignment of pin functions on the utility port depends on the mode of operation. For additional information regarding applicator mode operation, please contact QuickLabel Systems.

Standard Mode

Pin	Signal	Notes
1	N/C	
2	Ground	
3	Cutter On/Off	Output (1=on 0=off)
4	5 VDC	1A max
5	Cutter	Error Input (1=error 0=no error)
6	Cutter Pulse	~ 250 nsec pulse output
7	N/C	
8	Pause	Input (1=print 0=pause)
9	Error	

Applicator Mode

Pin	Signal	Notes
1	N/C	
2	Ground	
3	Printing	Output (1=printing)
4	N/C	
5	N/C	
6	N/C	
7	N/C	
8	Go	Input (1=initiate print)
9	Skip/Apply	Output (1=apply 0=skip)
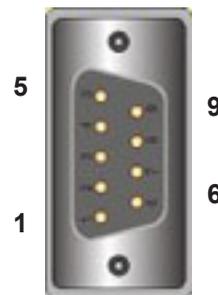
Note: If you are using a cutter or cutter/stacker, refer to the unit's setup and operation manual for information on setting up the unit with your printer.

Warning: Exceeding the limits of the utility port signals can result in damage to the printer.

Compressed Air Connection

Preparing the Air Regulator

When you receive the QLS-8100 Xe Printer, the Air Regulator is ready for operation. The air pressure regulator has been set at the factory for the proper air pressure. You only need to connect your in-house air supply to the printer.

QuickLabel Systems can supply you with a portable, quiet air compressor suitable for office use should you not have a source of compressed air.

Connecting the Air Supply

1   Obtain a suitable source of in-house air. This air should be dry, clean, and oil-free. Be sure to turn off the supply of air to this connection before making any connections.

2   Attach an appropriate threaded fitting to the Air Intake Regulator using Teflon tape on the threads to seal the fitting.

3   Attach your in-house air source to the Air Intake Regulator.

4   Turn on the supply of air to this connection.

5   Check the indicator dial to ensure that the regulator is set to 70 PSI.

6   If adjustment is required, pull down on the regulator knob to unlock it and turn the knob until the desired pressure level is reached:

   •   Turn the knob clockwise to increase air pressure

   •   Turn the knob counterclockwise to decrease air pressure

7   When finished adjusting the pressure, push the regulator knob upwards to lock it into place.

Note: The QLS-8100 Xe can be used without compressed air, but the RibbonRation system cannot be used. Refer to Chapter 5 for information on how to disable the RibbonRation system.

Cover Switch

A plunger-type switch monitors whether the cover is open or closed. This safety feature helps ensure that during normal operation, the printer will run only when the cover is closed.
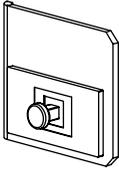
If the printer cover is open, the printer will not print and the following message will appear on the display.

```
Door Is Open
```

Note: Some printer adjustments require access to the print stations. Therefore, the cover switch can be **temporarily** disabled to allow access to the print stations while printing.

With the cover open, pull the cover switch plunger outward. It will lock in the outward position and allow printing with the cover open. To return the cover switch to normal operation, close the printer cover or push the switch inward to its original location.

Caution: Do not remove or otherwise attempt to defeat the cover switch safety feature. Running the printer with the cover open can result in personal injury.

QLS-8100Xe

Chapter 3:
Loading Media
and Calibration

Now that your QLS-8100 Xe is unpacked and all connections have been made to the printer, you are ready to load label or tag stock, thermal transfer ribbon, and calibrate the printer in preparation for printing.

This chapter provides the following information:

- Instructions on loading thermal transfer ribbon
- Instructions on loading label or tag stock
- Instructions on calibrating the printer for the installed media

Loading Thermal Transfer Ribbon

The QLS-8100 Xe is capable of printing using *Spot Color* or *Process Color* thermal transfer ribbons.

When using *Spot Color* ribbons, each of the four stations prints a fully saturated color. Any color can be installed on any print station and the location of each color is defined in Color QuickLabel 99 Pro software or the QuickLabel Systems Windows Printer Driver.

When using *Process Color* ribbons, each of the print stations prints a dot pattern of a primary color (Cyan, Magenta, Yellow, or Black). These primary colors overlap each other on the label to produce a wide range of colors. *Process Color* ribbon must be installed on specific print stations as defined below. CMYK printing is commonly used while some specific applications may call for KCMY printing where the black ribbon is printed last.

	CMYK	**KCMY**
Print Station 1	Cyan	Black
Print Station 2	Magenta	Cyan
Print Station 3	Yellow	Magenta
Print Station 4	Black	Yellow

As an aid, a threading diagram displaying the thermal transfer ribbon path is printed on the center plate of the printer.
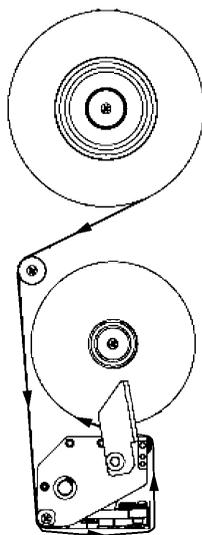
To load thermal transfer ribbon on each print station:

1 Fully seat a roll of coated-side-in ribbon on the print station's Supply Mandrel. You will feel resistance as the spring clip on the mandrel secures the roll. Ensure that the ribbon unwinds to the right and under the roll.

2 Fully seat an empty cardboard takeup core on the associated Rewind Mandrel.

3 Flip the Print Station Lift Lever counterclockwise to open the printhead.

4 Thread the ribbon over the ribbon guide roller located closest to the Rewind Mandrel, then downward towards the print station.

5 Thread the ribbon around the lower print station ribbon guide roller and under the print station.

6 Continue to thread the ribbon up around the front edge of the printhead then between the ribbon guide roller at the front of the print station and the anti-static brush support shaft.

7 Finally, wrap the ribbon up and over the empty takeup core. Secure the end of the ribbon with a small piece of adhesive tape.

8 Turn the ribbon rewind knob clockwise to take up any slack in the ribbon.

9 Flip the Print Station Lift Lever clockwise to close the printhead.

10 Repeat this process to install ribbon on each of the print stations.

Loading Label or Tag Media

The QLS-8100 Xe is capable of printing on a wide variety of media types and sizes and is designed to accept media up to a 12″ OD (outside diameter) roll capacity on a 3″ ID (inside diameter) core.

The QLS-8100 Xe positions the printed image correctly by utilizing either a transmissive or reflective sensor to detect the beginning of a label or tag. In some applications, a continuous media without notches or reflective marks can be used, and the length of the printed image is dictated by software.

When using the transmissive method of sensing, the media should have at least a 0.125″ (3 mm) gap or notch. When using a reflective sensing method, the media should have a 0.078″ (2 mm) solid black reflective mark on the back that extends a minimum of 0.5″ (12 mm) from the inside edge of the media.

As an aid, a threading diagram showing the media path is printed on the center plate of the printer.

To load label or tag media:

1   Lift the printer's cover.

2   Flip each Print Station Lift Lever counterclockwise to open the printheads.
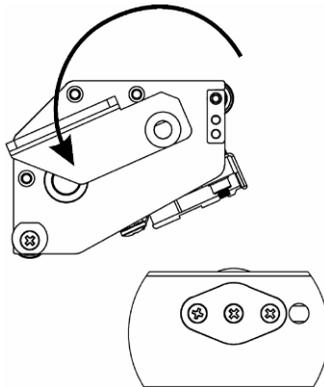
3 Flip the Drive Roller Lift Lever clockwise to open the drive roller.
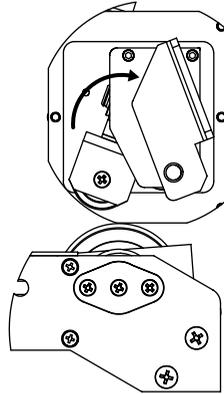
4 Remove the Media Retainer from the media supply mandrel by first loosening the small nylon retaining screw then sliding the Media Retainer away from the printer and off the mandrel.

5 Orient the roll so that the labels are coming off the top and to the right. Using the media retainer to push the roll, slide the roll onto the mandrel until it is firmly seated against the back plate. You will feel resistance as the spring clip on the mandrel secures the roll.

Note: If the media is not fully seated against the back plate, an unprinted vertical area or void will appear on the printed label.

6 Ensure that the Media Retainer is firmly against the media roll and hand-tighten the nylon retaining screw to secure the Media Retainer to the mandrel.

7 Lift the Media Dancer Arm to the right and upwards to relieve back-tension on the media supply roll. Unroll approximately a 3-foot length of media.

8 Thread the media down and to the left, then around the Media Dancer Arm.

9 Remove the Media Guide Collar from the lower Media Guide Roller.

10 Continue to thread the media over and around the Upper Media Guide Roller then under and around the Lower Media Guide Roller.

11 Thread the media through the Media Sensor Assembly and then through the Media Travel Roller assembly.

Upper Media Guide Roller

Media Dancer Arm

Lower Media Guide Roller

Media Sensor Assembly

Media Travel Roller Assembly
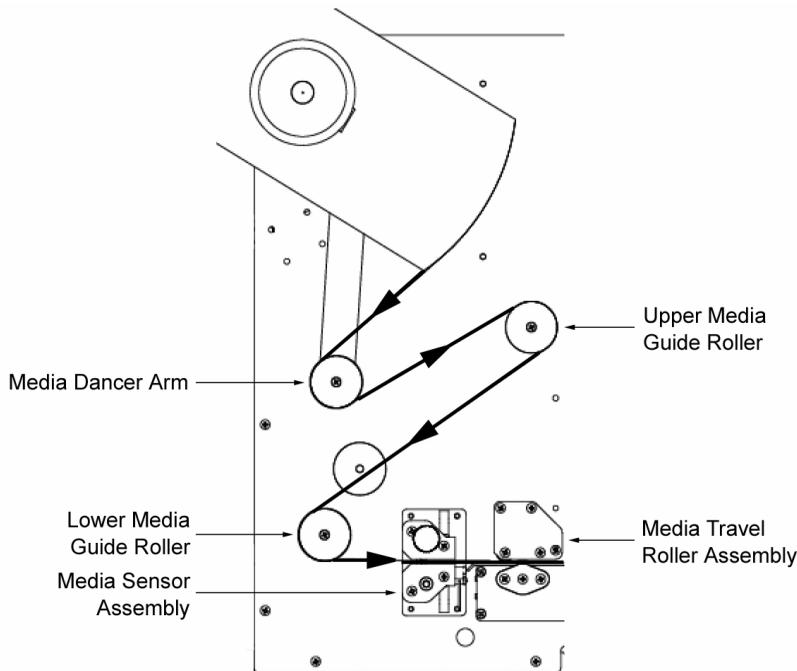
12 Continue to thread the media through each of the print stations over the platen rollers.

13 Finally, thread the media between the drive roller and pinch roller so that it exits from the front of the printer.

14 Ensure that the media rests against each of the four Media Guide Rollers located just behind the print stations on center plate.

15 Flip each Print Station Lift Lever clockwise to close the printheads.

16 Flip the Drive Roller Lift Lever counterclockwise to close the drive roller.

17 Reinstall the Media Guide Collar until it just rests against the outer edge of the media.

Adjusting the Media Sensor

The QLS-8100 Xe is equipped with two intelligent media sensors. One sensor is used for gap, or notched media types, and the other is used for reflective media types. Under normal operation, the sensor has to be calibrated to the media type being used only once. When changing from gap to reflective media types or vice-versa, a re-calibration is required.

The Gap/Notch Sensor is positioned *above* the media on a movable shaft which can be adjusted out up to 2.5" (64 mm) from the inside edge of the media. The Reflective Sensor is positioned *below* the media in a position fixed at 6 mm from the inside edge of the media.

Before calibrating the printer for gap or notched media, you must adjust the position of the sensor so that it clearly "sees" the gap or notch. The illustration below shows how to adjust the sensor.
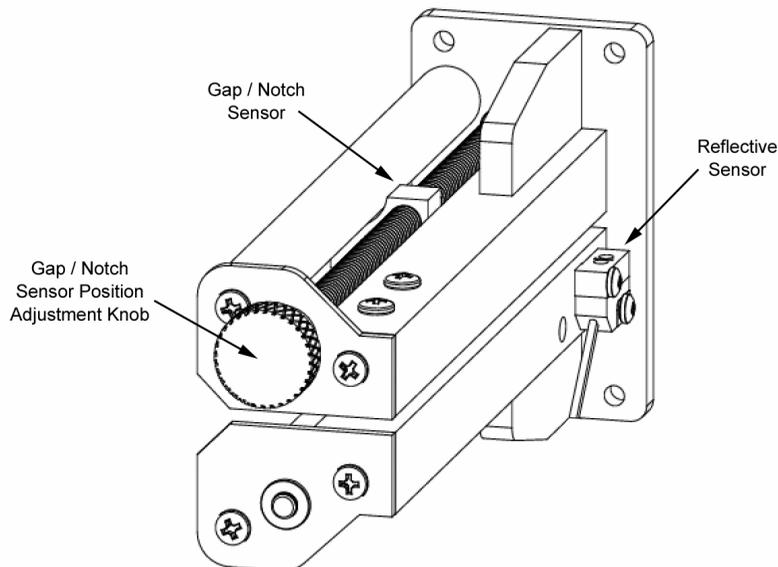
To adjust the media sensor:

1 Turn the knob **clockwise** to move the sensor toward the outside edge.

2 Turn the knob **counterclockwise** to move the sensor toward the inside edge.

Calibrating for Media Types

Calibrating the printer for the type of media being used is essential and is the first procedure that must be performed prior to printing and whenever the media type is changed. If the printer is not properly calibrated, any of the following may occur:

- Printer will not initiate printing
- Media advances but no image is printed
- Printer will report a Media Out error
- Image placement is incorrect or the printed image is clipped
- Color QuickLabel 99® Pro software reports an error

The calibration process automatically senses any gap, notch, or index mark on the media. This allows the printer to position widely varying types of media automatically and correctly. The printer stores the last calibration in non-volatile memory.

The printer's internal label queue is reset during the calibration process. Any labels pending in the queue are terminated. Use the procedures on the following pages to perform a media calibration.

Note: Calibration need not be performed frequently if you use the same type of label or tag material, regardless of size.

Calibrating Gap Media

1   Lift each of the printheads for this calibration routine in order to conserve ribbon. Leave the drive roller engaged.

2   Remove a label from the liner between the Media Dancer Arm and the Upper Media Guide Roller (*skip this step if using notched or hole-punched media*).

3   Press the PRINT/PAUSE key until the printer is in a paused state.

4   Press the NEXT or PREVIOUS key until the Cal & Setup menu is displayed, then press the SELECT key.

> Pause: Cal & Setup
> Press SELECT

5   Press the NEXT or PREVIOUS key until the Calibrate menu is displayed.

6 Press the + or - key until Gap is displayed.

```
Calibrate
Gap
```

7 Press the SELECT key. The display will show the following prompt:

```
Place Liner @ Sensor
Then Press Select
```

8 Press and *hold* the FORM FEED/ADVANCE key until the liner is inside the sensor bracket. On notched media, temporarily slide the media out so that it is completely clear of the sensor assembly.

9 Press the SELECT key. The display will show the following prompt:

```
Place Media @ Sensor
Then Press Select
```

10 Press and *hold* the FORM FEED/ADVANCE key until the next label is inside the Gap sensor.

11 Press the SELECT key. The display will show the following prompt:

```
Place Gap @ Arrow
Then Press Select
```

12 Press and hold the FORM FEED/ADVANCE key until the next gap is positioned behind the Media Sensor Assembly and in close proximity to the guide arrow indicated on the center plate.

13 Press the SELECT key and observe the gap size on the display. The gap size should be the same as the measured gap of your media and the following message will be displayed:

```
Gap
Calibration OK
```

If calibration was unsuccessful, the following message will be displayed:

```
             Gap
        Calibration Bad
```

The user must re-initiate the calibration procedure.

14 After successful calibration, press the PRINT/PAUSE key to return the printer to a Ready state.

Note: The QLS-8100 Xe is capable of sensing media with a maximum gap or notch size of 50 mm.

Calibrating Reflective Media

1 Lift each of the printheads for this calibration routine in order to conserve ribbon. Disengage the drive roller by turning the Drive Roll Lift Lever clockwise.

2 Position the reflective mark so that the red light from the reflective sensor passes through the mark. The light will typically pass through most media allowing you to view the mark from above. On more opaque media, you may have to view the mark from the bottom.

3 Engage the drive roller by turning the Drive Roll Lift Lever counterclockwise.

4 Press the PRINT/PAUSE key until the printer is in a paused state.

5 Press the NEXT or PREVIOUS key until the Cal & Setup menu is displayed, then press the SELECT key.

```
Pause: Cal & Setup
    Press SELECT
```

6 Press the NEXT or PREVIOUS key until the Calibrate menu is displayed.

7 Press the + or - key until Reflective is displayed.

```
        Calibrate
        Reflective
```

8 Press the SELECT key. The display will show the following prompt:

```
Place Mark @ Sensor
Then Press Select
```

9 Press the SELECT key again. The display will show the following prompt:

```
Place Media @ Sensor
Then Press Select
```

10 Reposition the media by pressing and holding the FORM FEED/ADVANCE key until the red light no longer shines through the mark but through the media.

11 Press the SELECT key. The display will show the following prompt:

```
Place Mark @ Arrow
Then Press Select
```

12 Press and *hold* the FORM FEED/ADVANCE key until the reflective mark is positioned behind the Media Sensor Assembly and in close proximity to the guide arrow indicated on the center plate.

13 Press the SELECT key and observe the Reflective mark size on the display.

If calibration was successful, the following message will be displayed:

```
Reflective
Calibration OK
```

If calibration was unsuccessful, the following message will be displayed:

```
Reflective
Calibration Bad
```

The user must re-initiate the calibration procedure.

14 After successful calibration, press the PRINT/PAUSE key to return the printer to a Ready state.

Calibrating Continuous Media

1 Press the PRINT/PAUSE key until the printer is in a paused state.

2 Press the NEXT or PREVIOUS key until the Cal & Setup menu is displayed, then press the SELECT key.

```
Pause: Cal & Setup
    Press SELECT
```

3 Press the NEXT or PREVIOUS key until the Calibrate menu is displayed.

4 Press the + or - key until Continuous is displayed.

```
      Calibrate
      Continuous
```

5 Press the SELECT key. The printer will feed a short length of media and will then be calibrated for continuous media. The display will show the following prompt:

```
      Continuous
   Media Calibrated
```

6 Press the PRINT/PAUSE key to return the printer to a Ready state.

Calibrating Inverted Gap Media

Some examples of inverted gap media include clear labels with an opaque liner, a material which has sensing marks on the label itself, or a material on which you must sense on a preprinted image.

When using media of this type, the printer is calibrated using the Gap Calibration method outlined previously in this chapter.

The only difference in the procedure is that you would align the sensing mark when the printer prompts for placement of the liner or gap.

Chapter 4: Keypad Controls and Menus

The QLS-8100 Xe features an intuitive control panel consisting of a backlit LCD display, status LED indicators, and a multi-function keypad. The control panel permits the user to change settings and make adjustments on-the-fly without the need for a host computer.

This chapter provides the following information:

- Information on the layout and function of the keypad
- An overview of menu functions and range of settings
- Detailed descriptions for each menu function

Keypad Layout and Functions

The keypad buttons perform the following general functions.
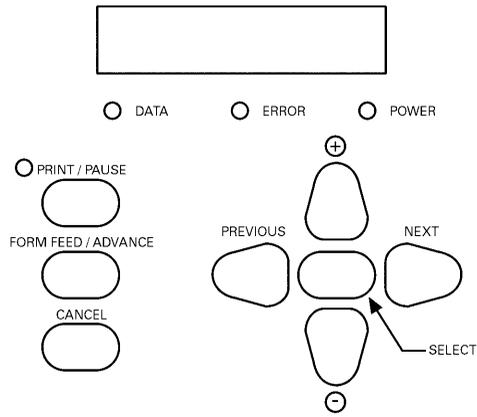
PRINT/PAUSE	Toggles the printer between Ready and Pause states
	Pauses or resumes printing
	If viewing a sub-menu, returns you to main Pause menu
FORM FEED/ADVANCE	When the printer is in a Pause state, feeds the media by one calibrated label length each time the key is pressed, or continually advances the media when the key is held
CANCEL	Cancels the current label(s) or test pattern
PREVIOUS/NEXT	Cycles the display though menu choices
	Displays current settings for various printer parameters
+	Increases values within menus
-	Decreases values within menus
SELECT	Accepts the displayed setting
	Pressing select twice returns user to top-level menu

Print/Pause

When the printer is idle (i.e. not printing labels), the PRINT/PAUSE key will toggle the printer between a Ready state and a Pause state as indicated on the display. While the printer is printing labels, pressing the PRINT/PAUSE key will put the printer in a Pause state and label printing will halt until the PRINT/PAUSE key is pressed again.

Ready state:

```
Ready
```

Pause state:
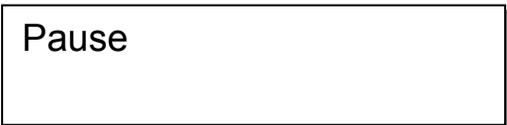
```
Pause
```

Certain function menus are only available when the printer is in the Pause state, as described in the following sections.

Form Feed/Advance

The FORM FEED/ADVANCE key serves two functions. If the key is pressed momentarily and released, the printer will advance the media by one calibrated media length. If the key is pressed and held, the printer will advance media until the key is released.

Cancel

While a batch of labels or the test pattern is being printed, pressing the CANCEL key will display the following message:
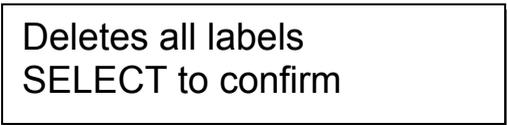
```
Deletes all labels
SELECT to confirm
```

Pressing SELECT will immediately cease printing, canceling any pending batches from memory and will return the printer to a Ready state.

Menu Overview

The following list outlines all of the menus that are accessible via the user interface. Some menus, as noted, are only accessible when the printer has been paused using the PRINT/PAUSE key. Some menus, like the Cutter menus, are only available when a specific option is enabled or in use.

The menus are organized in two levels. Top-level menus include Adjust, Cal & Setup, Operation, Ribbon, Communications, System, and Options. By choosing a top-level menu and pressing the SELECT key, you can scroll though functions related to the top-level menu. Pressing the SELECT key twice returns you to the top-level menu.

Note: For a detailed illustration of the printer menu structure, refer to *Appendix G: Menu structure*.

Ready State & Adjust Menu	Options are available in a Ready or Pause state.
Intensity	Adjusts the printhead intensity. Possible values range from 1 – 32.
Speed	Adjusts the print speed. Possible values range from 2 – 5 inches per second.
Print Line Adj	Adjusts the print line for printheads 1 - 3. Possible values range from -240 to +240.
Cross Web Adj	Adjusts the cross web for printheads 1 – 4. Possible values range from <-16 to -> 16 dots.
Vertical Offset	Adjusts the print registration vertically. Possible values range from -1200 to +1200 dots.
Horizontal Offset	Adjusts the print registration horizontally. Possible values range from <-600 to -> 600 dots.
Display Cntrs	Adjusts the display of the label counter. Possible values are Off, Batch, or Total.
Cut Offset	Available if cutter is enabled. Adjusts the position of the cut line. Possible values range from -1200 to +1200 dots.

Label Reprint	Reprints up to 999 copies of the last label printed, if using the Windows print driver. (Available only from Ready state)

Cal & Setup Menu	Options are available in a Pause state only.
Calibrate	Calibrates the printer to media type. Possible values are Gap, Reflective, or Continuous.
Test Print	Prints test patterns. Possible values are: Test Pattern 2″, 4″, 6″, 7″, 8″ Block Pattern (All) Proc. Block (CMYK) Proc. Block (KCMY) Horiz. Line Pattern Large Blocks 2″, 4″, 6″, 7″, 8″
Vertical Baseline	Synchronizes the vertical registration across multiple QLS-8100 Xe printers. Possible values range from -120 to +120 dots.
Horizontal Baseline	Synchronizes the horizontal registration across multiple QLS-8100 Xe printers. Possible values range from <-120 to -> 120 dots.
Printer Settings	Prints all of the current settings for the printer.

Operation Menu	Options are available in a Pause state only.
Pull Back	Requires special hardware. Contact QuickLabel Systems for more information on this function.
Label Reprint	Reprints up to 999 copies of the last label printed, if using the Windows print driver.
Synchronize Labels	Synchronizes labels when using printer/applicator.

Ribbon Menu	Options are available in a Pause state only.
Ribbon Type	Selects printhead intensity tailored to a specific media type. Possible values are Standard and Resin/Synthetic.
Drop/Lift Adjust	Adjust the drop and lift point for printheads 1 – 4. Possible values are 0 to +40 mm.
Ribbon Sensor	Used by QuickLabel Systems' technicians when performing factory diagnostics. Possible values are Enabled and Disabled, but in general use, the sensor should always be enabled.

Communications Menu	Options are available in a Pause state only.
Data Port	Selects the data input interface used by the printer. Possible values are Parallel, Serial, or Ethernet.
Parallel Mode	Specifies the mode of connection for the parallel port. Possible values are Auto or Standard.
RS232 Baud Rate	Specifies a baud rate for the RS232 serial port. Possible values are 4800, 9600, 19200, or 38400.
RS232 Handshaking	Specifies a handshaking method for the RS 232 serial port. Possible values are Hardware or XON/XOFF.
TCP/IP Address	Specifies the IP address of the printer for ethernet purposes.
TCP/IP Subnet Mask	Specifies the subnet mask.
TCP/IP Gateway	Specifies the default gateway.

System Menu	Options are available in a Pause state only.
Display Cntr	Adjusts the display of the label counter. Possible values are Off, Batch, or Total.
Memory Card	Selects whether to write-protect the memory card. Possible values are Write Protect ON or Write Protect OFF.
Format Memory Card	Formats the memory card.
Front Panel Lock/Unlock	Locks/Unlocks the front panel with a password.
Time	Sets up the time on the built-in, real-time clock.
Date	Sets up the date on the built-in, real-time clock.
Factory Reset	Returns the printer settings to the factory defaults.

Options Menu	Options are available in a Pause state only.
Mirror Mode	Activates mirror mode. Possible values are ON or OFF.
Cutter	Activates the cutter accessory. Possible values are Enabled or Disabled.
Cut Flag	Activates the cut flag. Possible values are ON or OFF. This option is available only if the cutter is enabled.
Pull Back	Enables/disables the pull back function. Possible values are Enabled or Disabled. This option requires special hardware. Contact QuickLabel Systems for more information.
Applicator	Activates the label applicator mode. Possible values are Enabled or Disabled.

Ready State & Adjust Menu

Options in this category are accessed in two ways. You can access these options by pressing the NEXT or PREVIOUS keys while the printer is in a Ready state, or you can pause the printer and access them via the Adjust menu. The following sections detail each of the features within this menu category.

Print Intensity

The printhead intensity determines the temperature of the printhead heating elements. The amount of heat applied to the thermal transfer ribbon determines the darkness of the print. The amount of heat that is actually applied to the film by the printhead is determined by two factors:

- Length of time that power is applied to the printhead
- Rate at which the media is traveling under the printhead

The print intensity setting determines the first factor and the second is controlled by the print speed. The printer has 32 discrete heat settings. A setting of 1 is the coolest setting, resulting in the lightest print. A setting of 32 is the hottest setting, resulting in the darkest print. The appropriate heat setting will vary depending on the media and ribbons being used as well as the print speed setting. As a general guideline, the ribbon types listed below will function best in the following print intensity ranges:

Ribbon Type	Range
Wax	1 - 12
Wax / Resin	10 - 20
Resin	16 - 32

In general, lower-quality media that requires more heat to produce a satisfactory image is less advantageous in terms of speed and performance than higher-quality media that images easily and quickly at lower temperatures. If you use media that requires more heat, it is recommended that you set the print speed to a slower rate.

Note: Some thermal transfer ribbon (typically, Resin type) reacts differently, actually printing lighter if too much heat is applied. This is a result of over-burning the ink. If this occurs, decreasing the heat will darken the printed image.

To set printhead intensity via the front panel:

1   If the printer is in a Ready state, proceed to the next step.

    If the printer is in a Pause state, press the NEXT or PREVIOUS key until the Adjust menu is displayed. Then press the SELECT key.

```
Pause: Adjust
        Press SELECT
```

2   Press the NEXT or PREVIOUS key until the Intensity menu for the print station you want to adjust is displayed.
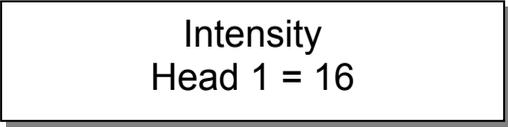
```
        Intensity
    Head 1 = 16
```

Note: Head 1 is the station closest to the media exit. Heads 2, 3, and 4 are positioned sequentially behind head 1.

3   With the desired print station appearing on the display, press the + or – key until the print intensity setting you want is displayed. Intensity settings range from 1 to 32.

Note: In most cases, higher intensities result in darker prints. Similarly, lower intensities generally result in lighter prints.

4   Press the SELECT key to confirm your choice.

Print Speed

This function allows you to choose the printing speed. The printer is capable of printing at speeds of 2 – 5 in/s (inches per second) in 1 in/s increments.

To set the print speed via the front panel:

1 If the printer is in a Ready state, proceed to the next step.

If the printer is in a Pause state, press the NEXT or PREVIOUS key until the Adjust menu is displayed. Then press the SELECT key.

> Pause: Adjust
>   Press SELECT

2 Press the NEXT or PREVIOUS key until the Speed menu is displayed.

> Speed
> 3 in/s

3 Press the + or – key until the desired print speed is displayed. Available print speeds are 2, 3, 4, or 5 inches per second.

4 Press the SELECT key to confirm your choice.

Note: Setting the print speed via software will always override this setting. You can set the print speed via Color QuickLabel 99 Pro or the QuickLabel Systems Windows Printer Driver.

Note: The printer's maximum speed will depend on the content of the format. For example, formats with incrementing or database fields may have to be printed at slower speeds.

Print Line Adjustment

Print line adjustments allow you to align the printing of each of the four print stations to obtain accurate color registration in the media travel direction.

These adjustments are made for print stations 1, 2, and 3 using print station 4 as a stationary reference. As such, there is no print line adjustment available for print station 4.

Print line adjustments are used to compensate for minor variations in printhead or media positions, and may be needed when media is changed or a printhead is replaced.

Once this procedure has been performed, it rarely needs to be repeated during normal operation. Print line adjustments are best performed dynamically while the QLS-8100 Xe is printing a block test pattern.

To perform a print line adjustment:

1   Select the slowest print speed for the adjustment process to conserve media and ribbon. For more information on changing print speed, refer to the print adjustment menu functions described in this chapter.

2   Print the Proc. Block Pattern (CMYK) test pattern. For more information on printing the test pattern, refer to the cal & setup menu functions described in this chapter.

   Printing will continue throughout the adjustment process until the printer is paused or the operating state of the printer is changed. The pattern on the test labels will show each of the current print stations providing a visual indication of how much adjustment each print station location needs.

3   If the printer is in a Ready state, proceed to the next step.

   If the printer is in a Pause state, press the NEXT or PREVIOUS key until the Adjust menu is displayed. Then press the SELECT key.

```
Pause: Adjust
      Press SELECT
```

4 Press the NEXT or PREVIOUS key until the Print Line Adj menu for the printhead you want to adjust is displayed.

> Print Line Adj
> Head 1 = +0

5 Press the + or – key to shift the selected print position in the desired direction. Increasingly positive values will move the print position up on the label. Increasingly negative values will move the print position down on the label.

6 When you are satisfied with the position, press the SELECT key to confirm your choice.

7 Repeat steps 4 – 6 until each of the printed bars for stations 1, 2, and 3 are properly aligned with the bars for station 4.

Note: An efficient way to shift the print line for a given print station is to measure the variation from the reference bar in the test pattern.

Recall that print stations 1, 2, and 3 are adjusted while referencing print station 4. For example, if the bar printed on station 1 is measured to be misaligned with the reference bar printed on station 4 by 2 millimeters, you know that you need to shift station 1 by 24 pixels.

The direction of misalignment will dictate whether you move the print line +24 or -24. Negative values adjust the line on the label away from the printer; positive values adjust the line toward the printer.

Cross Web Adjustment

Cross Web Adjustments allow you to align the printing of each of the four print stations to obtain accurate color registration across the width of the label. These adjustments can be made for print stations 1, 2, 3 and 4. One print station is typically used as a reference and left unchanged while the other three stations are adjusted relative to the reference station.

Cross web adjustments are used to compensate for minor variations in printhead position, and may be needed when a printhead is replaced.

This procedure is typically performed in conjunction with a Print Line Adjustment. Once this procedure has been performed, it rarely needs to be repeated during normal operation. Cross web adjustments are best performed dynamically while the QLS-8100 Xe is printing a block test pattern.

To perform a cross web adjustment:

1   Select the slowest print speed for the adjustment process to conserve media and ribbon. For more information on changing print speed, refer to the print adjustment menu functions described in this chapter.

2   Print the Proc. Block Pattern (CMYK). For more information on printing the test pattern, refer to the calibration & setup menu functions described in this chapter.

   Printing will continue throughout the adjustment process until the printer is paused or the operating state of the printer is changed. The pattern on the test labels will show each of the current print stations providing a visual indication of how much adjustment each print station location needs.

3   If the printer is in a Ready state, proceed to the next step.

   If the printer is in a Pause state, press the NEXT or PREVIOUS key until the Adjust menu is displayed. Then press the SELECT key.

```
Pause: Adjust
      Press SELECT
```

4 Press the NEXT or PREVIOUS key until the Cross Web Adj menu for the printhead you want to adjust is displayed.

```
Cross Web Adj
Head 1 = <-2
```

5 Press the + or – key to shift the selected print position in the desired direction.

The value range is <16 to 16>. The direction of the arrow indicates the position of the print relative to the center of the printhead. The total range is 32 dots with 16 dots to the left and right of the printhead center.

6 When you are satisfied with the position, press the SELECT key to confirm your choice.

7 Continue making adjustments until you observe that the blocks in the test pattern are horizontally aligned.

When all the blocks are aligned in the media travel and the cross web directions, and the black block prints without any color shadows, the color alignment is optimal.

Vertical Offset

By default, when printing on media with registration marks (gaps, reflective marks, etc.), the printer will place the label image area between the registration marks. You can vertically adjust the print registration in fine increments to move the printed image relative to the sensor mark.

Vertical
Offset

Media Travel Direction
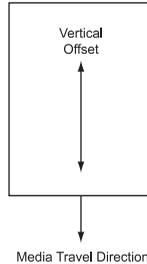
Adjusting the vertical offset affects each of the four print stations at the same time. To adjust the print stations individually, refer to the section on print line adjustments.

To set the vertical offset via the front panel:

1   If the printer is in a Ready state, proceed to the next step.

   If the printer is in a Pause state, press the NEXT or PREVIOUS key until the Adjust menu is displayed. Then press the SELECT key.

```
Pause: Adjust
        Press SELECT
```

2   Press the NEXT or PREVIOUS key until the Vertical Offset menu is displayed.

```
        Vertical
    Offset = + 16
```

3   Press the + or – key until the desired vertical offset setting is displayed.

   Offset settings range from – 1200 to + 1200 pixels (or dots). On the QLS-8100 Xe, there are 12 pixels per millimeter.


Negative values move the image down on the label (out away from the printer). Positive values move the image up the label (in toward the printer).

4   Press the SELECT key to confirm your choice.

Note: Setting the offset via software will always override this setting. You can set the offset via Color QuickLabel 99 Pro or the QuickLabel Systems Windows Printer driver.

Horizontal Offset

You can horizontally adjust the print registration in fine increments to move the printed image.

Horizontal Offset

Media Travel Direction
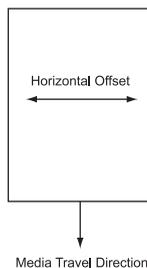
Adjusting the horizontal offset affects each of the four print stations at the same time. To adjust the print stations individually, refer to the section on cross web adjustments.

To set the horizontal offset via the front panel:

1   If the printer is in a Ready state, proceed to the next step.

If the printer is in a Pause state, press the NEXT or PREVIOUS key until the Adjust menu is displayed. Then press the SELECT key.

```
Pause: Adjust
        Press SELECT
```

2   Press the NEXT or PREVIOUS key until the Horizontal Offset menu is displayed.

```
        Horizontal
      Offset = < 16
```

3 Press the + or – key until the desired horizontal offset setting is displayed.

Offset settings range from <– 600 to -> 600 pixels (or dots). On the QLS-8100 Xe, there are 12 pixels per millimeter. The final image position will be constrained by the label width.

4 Press the SELECT key to confirm your choice.

Partially printed labels under the printheads will finish printing using the previous offset to ensure color alignment. During this time, you cannot adjust the cross web or horizontal offset values. The new horizontal adjustment will affect subsequent labels.

Note: Setting the offset via software will always override this setting. You can set the offset via Color QuickLabel 99.

Display Counter

The printer can dynamically display either the ongoing total number of labels that have been printed since the printer was last powered up or the number of labels that have been printed within any specific batch or print job. The printer's label counting feature can also be turned off.

Note: The counter will disappear while menus are being navigated during printing. The counter will be displayed and updated when the QLS-8100 Xe resumes printing labels.

To set up the counter:

1   If the printer is in a Ready state, proceed to the next step.

   If the printer is in a Pause state, press the NEXT or PREVIOUS key until the System menu is displayed. Then press the SELECT key.

```
Pause: System
        Press SELECT
```

2   Press the NEXT or PREVIOUS key until the Display Cntrs menu is displayed.

```
        Display Cntr
        Off
```

3   Press the + or – key until the desired counter setting is displayed. The following options are available.

   Off – No counter is displayed.
   Total – Count of labels printed since last power on is displayed
   Batch – Count of labels printed in current batch is displayed

   The selected counter mode will now appear on the display while printing.
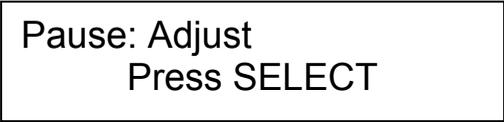
Cut Offset

When printing on media with registration marks (gaps, reflective marks, etc.), the printer will place the label image area between the registration marks. If necessary, you can adjust the location of the cut line relative to the printed image. The cut offset can be used to move the cut line forward or backward with respect to the top of the label.
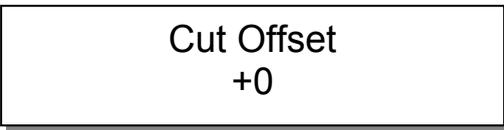
To adjust the cut position:

1   If the printer is in a Ready state, proceed to the next step.

    If the printer is in a Pause state, press the NEXT or PREVIOUS key until the Adjust menu is displayed. Then press the SELECT key.

> Pause: Adjust
>   Press SELECT

2   Press the NEXT or PREVIOUS key until the Cut Offset menu is displayed.

> Cut Offset
>   +0

3   Press the + or – key until the desired cut offset setting is displayed.

    Cut offset settings are –1200 through +1200 dots. Negative values move the cut line toward the bottom of the tag. Positive values move the cut line toward the top of the tag.

4   Press the SELECT key to confirm your choice.

Note: Setting the cut offset via software will always override this setting. You can set the cut offset via Color QuickLabel 99 Pro or the QuickLabel Systems Windows Printer driver.

Note: The vertical offset will affect the cut offset. As a rule, the vertical offset should be set first.

Label Reprint

When using the QuickLabel Systems Printer Driver for Windows to print to the QLS-8100 Xe, data is transmitted from the PC software application to the printer as a bitmapped image. You can use the Reprint option to quickly print any quantity of the last label printed.

To reprint labels:

1   If the printer is in a Ready state, proceed to the next step.

    If the printer is in a Pause state, press the NEXT or PREVIOUS key until the Operation menu is displayed. Then press the SELECT key.

> Pause: Operation
>   Press SELECT

2   Press the NEXT or PREVIOUS key until the Label Reprint menu is displayed.

>   Label Reprint
>   Copies = 1

3   Press the + or – key to specify the number of the last labels you wish to reprint. You can reprint up to 999 copies.

4   Press the SELECT key. The quantity you specified will be printed.

Cal & Setup Menu

Calibration & setup options are accessed via the Cal & Setup menu. The following sections detail each of the features within this menu category.

Calibrate

Calibrating the printer for the type of media being used is essential and is the first procedure that must be performed prior to printing and whenever the media type is changed. If the printer is not properly calibrated, any of the following may occur:

- Printer will not initiate printing
- Media advances but no image is printed
- Printer will report a Media Out error
- Image placement is incorrect or the printed image is clipped
- Color QuickLabel 99® Pro software reports an error

The calibration process automatically senses any gap, notch or index mark on the media. This allows the printer to position widely varying types of media automatically and correctly. The printer stores the last calibration in non-volatile memory. The printer's internal label queue is reset during the calibration process. Any labels pending in the queue are terminated.

Refer to the calibration procedures outlined in Chapter 3 for detailed information about calibrating the printer.

Test Print

The QLS-8100 Xe is equipped with a number of built-in test patterns used for checking color alignment, print quality, and printhead integrity.

To perform a test print:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Cal & Setup menu is displayed. Then press the SELECT key.

```
Pause: Cal & Setup
        Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Test Print menu is displayed.

```
         Test Print
   Test Pattern = 2 in.
```

4   Press the + or – key until the test pattern is displayed. The following test patterns are available.

Test Pattern 2″, 4″, 6″, 7″, 8″ – Prints a crosshatch pattern to check print quality.

Block Pattern (All) – Prints a spot color block pattern used for color alignment.

Proc. Block (CMYK) – Prints a process block pattern used for color alignment.

Proc. Block (KCMY) – Prints a process block pattern used for color alignment.

Horiz. Line Pattern – Used to check printhead angularity.

Large Blocks 2″, 4″, 6″, 7″, 8″ – Prints a solid block of each color.

5   Press the SELECT key to confirm your choice.

The printer will immediately begin to print labels showing the selected test pattern. Printing will continue until the printer is paused or the CANCEL key is pressed.

Vertical Baseline

This function is used to synchronize printing when using multiple QLS-8100 Xe printers. If you are sending the same image file to two or more printers and notice that the image prints in different vertical locations, you can use this function to move the vertical baseline of a printer.
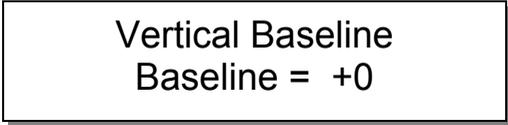
To adjust the vertical baseline:

1 If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2 Press the NEXT or PREVIOUS key until the Cal & Setup menu is displayed. Then press the SELECT key.

> Pause: Cal & Setup
>   Press SELECT

3 Press the NEXT or PREVIOUS key until the Vertical Baseline menu is displayed.

> Vertical Baseline
> Baseline = +0

4 Press the + or – key until the desired baseline setting is displayed. Baseline settings range from -120 through +120 dots.

5 Press the SELECT key to confirm the baseline.

6 Repeat this process on each printer requiring a baseline adjustment.

Horizontal Baseline

This function is used to synchronize printing when using multiple QLS-8100 Xe printers. If you are sending the same image file to two or more printers and notice that the image prints in different horizontal locations, you can use this function to move the horizontal baseline of a printer.
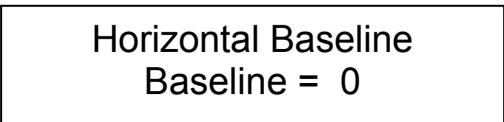
To adjust the horizontal baseline:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Cal & Setup menu is displayed. Then press the SELECT key.

```
Pause: Cal & Setup
        Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Horizontal Baseline menu is displayed.

```
     Horizontal Baseline
        Baseline =  0
```

4   Press the + or – key until the desired baseline setting is displayed. Baseline settings range from <-120 through -> 120 dots.

5   Press the SELECT key to confirm the baseline.

6   Repeat this process on each printer requiring a baseline adjustment.

Printer Settings

This function prints all of the current settings of the printer using the printhead of your choice.

To print current printer settings:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Cal & Setup menu is displayed. Then press the SELECT key.

```
Pause: Cal & Setup
      Press SELECT
```
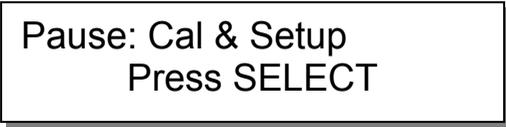
3   Press the NEXT or PREVIOUS key until the Printer Settings menu is displayed.

```
     Printer Settings
     Print With Head 1
```

4   Press the + or – key to specify the printhead that will be used to print the settings.

5   Press the SELECT key to print out a listing of current settings for the QLS-8100 Xe.

The sample report shown below indicates the type of information that will be printed.

```
QLS-8100 Xe Settings:
 SPEED = 2 INCHES/SEC
 INTENSITY (1, 2, 3, 4): 15, 15, 15, 15
 OFFSET:  V = 0 (0), H = 0 (0), C = 0
 PRINT LINE ADJ (1, 2, 3): -23, -9, -8
 CROSS WEB ADJ (1, 2, 3, 4): 0, 0, < 7, <8
 DROP/LIFT (1,2,3,4): 22, 22, 22, 22
 CONTINUOUS MEDIA 100 mm (1200 pixels)
 CALIBRATION: YES (gap = 38 pixels)
 COMPACT FLASH: YES
 v01.1 (0x00:00:00:1E) (fmt err=0)
 MEDIA USE: (101) 198 meters
 FILM 1 USE: (56) 56 meters
 FILM 2 USE: (167) 167 meters
 FILM 3 USE: (146) 146 meters
 FILM 4 USE: (80) 80 meters
 HEAD 1 USE: (31) 31 times
 HEAD 2 USE: (54) 54 times
 HEAD 3 USE: (42) 42 times
 HEAD 4 USE: (20) 20 times
```

Note: The OFFSET line displays the vertical offset, vertical baseline (in parentheses), horizontal offset, horizontal baseline (in parentheses), and the cut offset.

The "fmt err" value reports the last format error generated. This value will be 0 if no format errors have occurred since power-up.

Operation Menu

Operation options are accessed via the Operation menu. The following sections detail each of the features within this menu category.

Pull Back

When the QLS-8100 Xe stops printing, a section of blank media will extend from the printhead near the rear of the printer (print station #4) to the front of the printer. When you start printing again, this section of blank media will be advanced out of the QLS-8100 Xe as printing begins.

The pull back function allows you to pull back the blank media section. When the next print job begins, the section will be used for printing. This feature requires a compressed air connection and special hardware. It should only be used in applications that have been pre-qualified by QuickLabel Systems.

Contact QuickLabel Systems for more information on the pull back function.

Note: The pull back feature must be enabled before use. The Pull Back Enable/Disable function is available from the Options menu.

There are two ways to activate media pull back. One method involves selecting it from the Operation menu. Alternately, the FORM FEED button can be used to quickly activate the media pull back function.

To activate media pull back with the Operation menu:

1 If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2 Press the NEXT or PREVIOUS key until the Operation menu is displayed. Then press the SELECT key.

```
Pause: Operation
     Press SELECT
```

3 Press the NEXT or PREVIOUS key until the Pull Back menu is displayed.

```
Pull Back
     Press SELECT
```

4   Press the SELECT key. A message will be displayed to confirm Pull Back operation.

```
Pull Back
      SELECT to confirm
```

5   Press the SELECT key.

The printer will begin rewinding media until the last unprinted label is positioned just behind the media sensor.

If a Pull Back operation has been requested and a print batch has not been sent to the printer or the media has been moved in any way (i.e. Form Feed, Calibrate, Test Print, etc.) the following error message will be displayed.

```
Pull Back Off
   Media Moved / No Batch
```

To activate media pull back with the FORM FEED button:

1   While the printer is in a Ready state, press the FORM FEED key.

The printer will begin rewinding media until the last unprinted label is positioned just behind the media sensor.

If a Pull Back operation has been requested and a print batch has not been sent to the printer or the media has been moved in any way (i.e. Form Feed, Calibrate, Test Print, etc.) the following error message will be displayed.

```
Pull Back Off
   Media Moved / No Batch
```

Note: The FORM FEED key will activate the pull back feature only when the printer is in the Ready state. If the printer is paused, the FORM FEED key will operate normally, advancing the media when pressed.

Label Reprint

When using the QuickLabel Systems Printer Driver for Windows to print to the QLS-8100 Xe, data is transmitted from the PC software application to the printer as a bitmapped image. You can use the Reprint option to quickly print any quantity of the last label printed.

To reprint labels:

1   If the printer is in a Ready state, proceed to the next step.

    If the printer is in a Pause state, press the NEXT or PREVIOUS key until the Operation menu is displayed. Then press the SELECT key.

```
Pause: Operation
      Press SELECT
```

2   Press the NEXT or PREVIOUS key until the Label Reprint menu is displayed.

```
        Label Reprint
        Copies = 1
```

3   Press the + or – key to specify the number of the last labels you wish to reprint. You can reprint up to 999 copies.

4   Press the SELECT key. The quantity you specified will be printed.

Synchronize Labels

This function applies **only** to users integrating the printer with an applicator system. The synchronize labels function synchronizes the printing of labels with the applicator. This process is an initialization of the printer and media. A synchronization must be performed after the following conditions:

- Power up
- Media out, after the media has been replaced
- TTR out, after the ribbon has been replaced
- After running the test pattern
- After performing a media calibration
- After performing a form feed
- After performing a media advance

Note: You should never perform calibration, form feed, media advance, or test pattern functions while labels are printing. Any of these operations will clear all label formats from the internal queue and require synchronization.
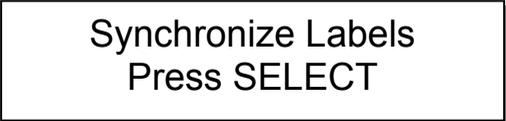
To synchronize labels:

1   When the printer is in the "Applicator Paused" state, press the NEXT or PREVIOUS key until the Operation menu is displayed. Then press the SELECT key.

> Pause: Operation
>   Press SELECT

2   Press the NEXT or PREVIOUS key until the Synchronize Labels menu is displayed.

> Synchronize Labels
>   Press SELECT

3 Press the SELECT key. The printer will feed one or two labels and then be ready for applicator mode operation. If no labels feed, the printer did not require synchronization.

- If the following message appears, the front panel pause is enabled and the synchronize function will not operate. The printer must be in the "Applicator Paused" state to perform the synchronize function.

> Cannot Synchronize
> Printer Is Paused

- If the following message appears, the printer is calibrated for continuous media. Continuous media cannot be used with an applicator system.

> Cannot Synchronize
> Continuous Media Cal

Ribbon Menu

Ribbon options are accessed via the Ribbon menu. The following sections detail each of the features within this menu category.

Ribbon Type

Selecting a ribbon type allows you to select a printhead heat and history profile that has been tailored to a specific media and ribbon combination. This feature enables the QLS-8100 Xe to print on an even wider range of specialty materials.
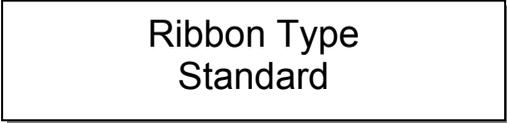
To change the ribbon type:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Ribbon menu is displayed. Then press the SELECT key.

```
Pause: Ribbon
        Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Ribbon Type menu is displayed.

```
        Ribbon Type
        Standard
```

4   Press the + or – key until the desired ribbon type is displayed. You can choose from standard or resin/synthetic ribbon.

5   Press the SELECT key to confirm your ribbon choice.

Note: The standard profile should be selected for most applications unless otherwise specified by QuickLabel Systems.

Drop/Lift Adjust

The QLS-8100 Xe is equipped with QuickLabel Systems' patented RibbonRation™ technology. This feature automatically determines when to enable or disable each of the four print stations, thus consuming thermal transfer ribbon only when a particular color is needed.

In some cases, multiple drop/lift points will be used on individual labels. The number of drops and lifts depends on the size of the label. The following diagram illustrates sample drop/lift points, and the resulting ribbon savings, for a particular print station.
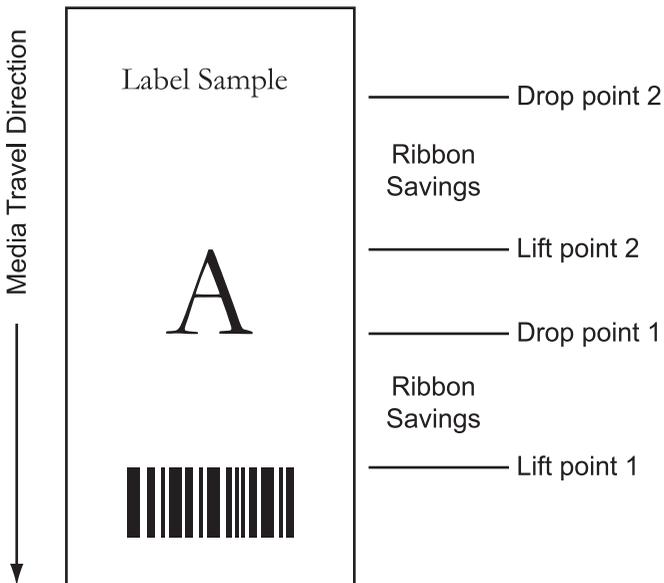
The Drop/Lift Adjust function enables you to fine tune the point at which a printhead will drop for printing of a subsequent color. In some applications, dropping the printhead earlier results in smoother color application and reduces the tendency for film wrinkle.

Note: In most cases, the default drop values will be optimal. However, if film wrinkling seems excessive, use the following procedure to change the drop point of the corresponding print station.

To use the Drop/Lift Adjust function:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Ribbon menu is displayed. Then press the SELECT key.

> Pause: Ribbon
>   Press SELECT

3   Press the NEXT or PREVIOUS key until the Drop/Lift Adjust menu for the desired printhead is displayed.

> Drop/Lift Adjust
>   Head 3 = 6

4   Press the + or – key until the desired drop setting is displayed. Drop settings range from 0 to 40 mm. The default value is 6. Increasing this value will cause the printhead to drop sooner, and decreasing the value will cause the printhead to drop later.

5   Press the SELECT key to confirm your choice.

Any changes will take effect only after a new label is sent.

Ribbon Sensor

This function is for use by QuickLabel Systems' technicians when performing diagnostics at the factory. In general use, the TTR Sensor should always be enabled.
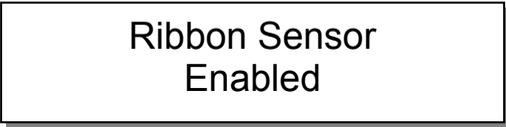
To adjust the ribbon sensor:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Ribbon menu is displayed. Then press the SELECT key.

```
Pause: Ribbon
        Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Ribbon Sensor menu is displayed.

```
        Ribbon Sensor
        Enabled
```

4   Press the + or – key until the desired sensor setting is displayed. Available options are Enabled or Disabled. Under normal operating conditions, the sensor should be enabled.

5   Press the SELECT key to confirm your choice.

Caution: This capability is intended for factory diagnostics only. Do not disable the sensor. Use of the printer with the ribbon sensor disabled could result in damage to the printhead (due to overheating) and/or poor print quality.

Communications Menu

Communications options are accessed via the Communications menu. The following sections detail each of the features within this menu category.

Data Port

The host computer transfers label formats, images, and fonts to the printer via a designated data port. The host computer transfers information about the printer's status via a status port.

Either the parallel port, serial port, or ethernet connection can be used as the data port. Only one of these communication channels be used as the data port; the others are used as status ports. However, a data port can also be used as a status port if the channel is bi-directional, which means it can transmit and receive data.

The parallel port is the default data port. However, you can change the data port using the Data Port menu option.

Note: If data port-specific commands are received via the status port, an error will occur.

```
        Data Port Error
       Check Comm Setup
```

To select a data port:

1 If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2 Press the NEXT or PREVIOUS key until the Communications menu is displayed. Then press the SELECT key.

```
     Pause: Communications
         Press SELECT
```

3 Press the NEXT or PREVIOUS key until the Data Port menu is displayed.

```
           Data Port
            Parallel
```

4   Press the + or – key until the desired data port is displayed. Available options are Parallel, Serial, or Ethernet.

5   Press the SELECT key to confirm your choice.

Parallel Mode

If you are using the parallel port to connect the printer to a host computer, you can select a parallel port mode. The parallel port mode determines the method of communication used between the host and the printer.

The default setting is Auto mode. Auto mode attempts to communicate via an ECP (Extended Capabilities Port) connection. If it cannot communicate via this method, it will automatically switch to standard mode, which uses a common Centronics method of communication.

The supplied parallel or high-speed IEEE-1284 parallel cable should be used to ensure reliable performance.

To select a parallel mode:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Communications menu is displayed. Then press the SELECT key.

```
Pause: Communications
     Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Data Port menu is displayed.

```
     Parallel Mode
          Auto
```

4   Press the + or – key until the desired parallel mode is displayed. Available options are Auto, or Standard.

5   Press the SELECT key to confirm your choice.

RS232 Baud Rate

If you are using the RS232 serial port connection, you can configure the printer to use one of four specific baud rates.

To select a baud rate:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Communications menu is displayed. Then press the SELECT key.

```
Pause: Communications
      Press SELECT
```

3   Press the NEXT or PREVIOUS key until the RS232 Baud Rate menu is displayed.

```
     RS232 Baud Rate
          19200
```

4   Press the + or – key until the desired baud rate is displayed. Available options are 4800, 9600, 19200, or 38400.

5   Press the SELECT key to confirm your baud rate choice.

RS232 Handshaking

If you are using the RS232 serial port connection, you can configure the printer handshaking method.

To select a handshaking method:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Communications menu is displayed. Then press the SELECT key.

```
Pause: Communications
      Press SELECT
```

3   Press the NEXT or PREVIOUS key until the RS232 Handshaking menu is displayed.

```
   RS232 Handshaking
       Hardware
```

4   Press the + or – key until the desired handshaking method is displayed. Available options are Hardware or XON/XOFF.

5   Press the SELECT key to confirm your handshaking choice.

TCP/IP: IP Address

A TCP/IP address uniquely identifies each device connected to your network. If you are using ethernet to connect your printer to a network, you will need to assign a TCP/IP address to your QLS-8100 Xe printer.

The default TCP/IP address is 192.168.255.1.

Note: For more detailed information on the topic of networking, refer to the documentation applicable to your network environment and/or contact your network administrator.

To set the TCP/IP address:

1 If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2 Press the NEXT or PREVIOUS key until the Communications menu is displayed. Then press the SELECT key.

```
Pause: Communications
     Press SELECT
```

3 Press the NEXT or PREVIOUS key until the TCP/IP Address menu is displayed.

```
     TCP/IP Address
     192.168.255.1
```

4 Press the + or – key to increase or decrease the first number in the address, then press the SELECT key.

Press the + or – key to increase or decrease the second number in the address, then press the SELECT key.

Press the + or – key to increase or decrease the third number in the address, then press the SELECT key.

Press the + or – key to increase or decrease the fourth number in the address, then press the SELECT key.

5 Press the SELECT key to confirm the TCP/IP address.

TCP/IP Subnet Mask

You will use the TCP/IP Subnet Mask option in the Communications menu to set a subnet mask for the QLS-8100 Xe printer.

The default subnet mask is 255.255.255.1.

Note: For more detailed information on the topic of networking, refer to the documentation applicable to your network environment and/or contact your network administrator.

To set the TCP/IP subnet mask:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Communications menu is displayed. Then press the SELECT key.

```
Pause: Communications
      Press SELECT
```

3   Press the NEXT or PREVIOUS key until the TCP/IP Subnet Mask menu is displayed.

```
    TCP/IP Subnet Mask
      255.255.255.1
```

4   Press the + or – key to increase or decrease the first number in the address, then press the SELECT key.

Press the + or – key to increase or decrease the second number in the address, then press the SELECT key.

Press the + or – key to increase or decrease the third number in the address, then press the SELECT key.

Press the + or – key to increase or decrease the fourth number in the address, then press the SELECT key.

5   Press the SELECT key to confirm the TCP/IP subnet mask.

TCP/IP Gateway

You will use the TCP/IP Gateway option in the Communications menu to set a subnet mask for the QLS-8100 Xe printer.

The default gateway is 0.0.0.0.

Note: For more detailed information on the topic of networking, refer to the documentation applicable to your network environment and/or contact your network administrator.
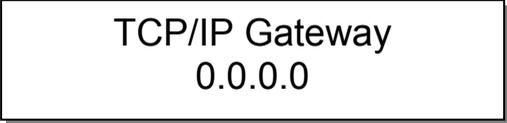

To set the TCP/IP gateway:

1 If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2 Press the NEXT or PREVIOUS key until the Communications menu is displayed. Then press the SELECT key.

```
Pause: Communications
      Press SELECT
```

3 Press the NEXT or PREVIOUS key until the TCP/IP Gateway menu is displayed.

```
      TCP/IP Gateway
         0.0.0.0
```

4 Press the + or – key to increase or decrease the first number in the address, then press the SELECT key.

Press the + or – key to increase or decrease the second number in the address, then press the SELECT key.

Press the + or – key to increase or decrease the third number in the address, then press the SELECT key.

Press the + or – key to increase or decrease the fourth number in the address, then press the SELECT key.

5 Press the SELECT key to confirm the TCP/IP gateway.

System Menu

System options are accessed via the System menu. The following sections detail each of the features within this menu category.
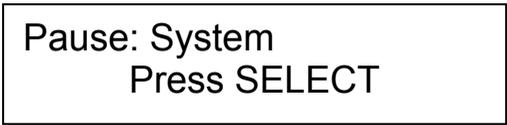
Display Counter

The printer can dynamically display either the ongoing total number of labels that have been printed since the printer was last powered up or the number of labels that have been printed within any specific batch or print job. The printer's label counting feature can also be turned off.

To set up the counter:

1 If the printer is in a Ready state, proceed to the next step.

   If the printer is in a Pause state, press the NEXT or PREVIOUS key until the System menu is displayed. Then press the SELECT key.

```
Pause: System
        Press SELECT
```

2 Press the NEXT or PREVIOUS key until the Display Cntrs menu is displayed.

```
Display Cntr
        Off
```

3 Press the + or – key until the desired counter setting is displayed. The following options are available.

   Off – No counter is displayed.
   Total – Count of labels printed since last power on is displayed
   Batch – Count of labels printed in current batch is displayed

   The selected counter mode will now appear on the display while printing.

Memory Card - Write Protection

Memory cards allow you to save fonts, bitmap images, and other configuration information in a portable format. Memory cards use non-volatile memory, so the contents of the card remain intact even after the printer is powered off.

You can write protect memory cards to prevent contents from being accidentally erased while using the printer. However, write protection will not protect the memory card data if the card is used with a PC reader.
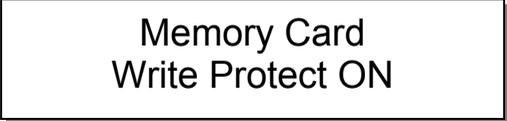
To write protect the memory card:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the System menu is displayed. Then press the SELECT key.

```
Pause: System
        Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Memory Card menu is displayed.

```
        Memory Card
      Write Protect ON
```

4   Press the + or – key until the desired memory card protection setting is displayed. Possible settings are On or Off.

5   Press the SELECT key to confirm your choice.

Front Panel Lock/Unlock

The Front Panel Lock/Unlock feature allows you to lock the menu, preventing unauthorized users from modifying printer settings. The front panel is locked and unlocked with a user-defined four-digit password.

When the front panel is locked, users can scroll through the menus, but cannot make any changes. The only available features are PRINT/PAUSE, FORM FEED/ADVANCE, Printer Settings, and Front Panel Unlock.

An "X" character will appear on the Ready and Pause displays to indicate the front panel is locked.
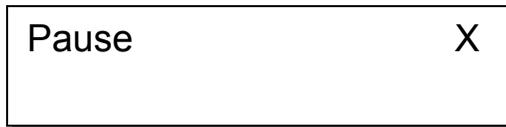
```
Ready                          X


```

```
Pause                          X


```

To lock the front panel:

1 If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2 Press the NEXT or PREVIOUS key until the System menu is displayed. Then press the SELECT key.

```
Pause: System
        Press SELECT
```
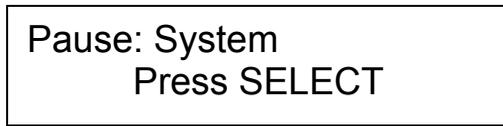
3 Press the NEXT or PREVIOUS key until the Front Panel Lock menu is displayed.

```
        Front Panel Lock
             0000
```

4   Press the + or – key to increase or decrease the first number in the password, then press the SELECT key.

Press the + or – key to increase or decrease the second number in the password, then press the SELECT key.

Press the + or – key to increase or decrease the third number in the password, then press the SELECT key.

Press the + or – key to increase or decrease the fourth number in the password, then press the SELECT key.

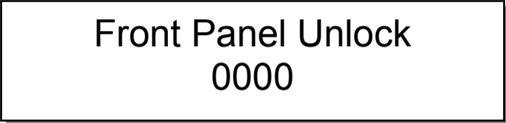**5**   Press the SELECT key to lock the front panel using the specified password.

To unlock the front panel:

1   If the locked printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the System menu is displayed. Then press the SELECT key.

```
Pause: System
        Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Front Panel Unlock menu is displayed.

```
        Front Panel Unlock
                0000
```

4 Press the + or – key to increase or decrease the first number in the password, then press the SELECT key.

Press the + or – key to increase or decrease the second number in the password, then press the SELECT key.

Press the + or – key to increase or decrease the third number in the password, then press the SELECT key.

Press the + or – key to increase or decrease the fourth number in the password, then press the SELECT key.

5 Press the SELECT key to unlock the front panel using the appropriate password.

Memory Card - Formatting

Memory cards must be formatted before they can be used. If you have a memory card inserted in the memory card slot, which is located on the rear panel, use the following instructions to format the card. The memory card write protection setting must be off to allow memory card formatting.

Note: Use caution when formatting memory cards. Formatting a memory card permanently erases all data on the card.

To format the memory card:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the System menu is displayed. Then press the SELECT key.

```
Pause: System
        Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Format Memory Card menu is displayed.

```
Format Memory Card
      Press SELECT
```

4   Press the SELECT key. A confirmation message will be displayed before the memory card is formatted.

```
Volume: QLSXE_00
      SELECT to Confirm
```

5   To confirm the formatting, press the SELECT key. To cancel formatting and return to the main Pause menu, press the PRINT/PAUSE key. When you confirm formatting, a status message will display.

```
Format Complete
```

Time

The QLS-8100 Xe provides a built-in, real-time clock that is used for displaying the time and date. It is also used to provide a time/date stamp for fonts and images. You will use the Time menu option to set the time for the clock.
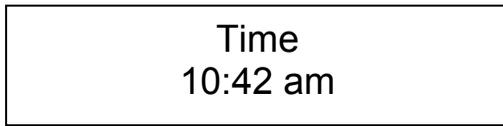
To set the time:

1　If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2　Press the NEXT or PREVIOUS key until the System menu is displayed. Then press the SELECT key.

```
Pause: System
        Press SELECT
```
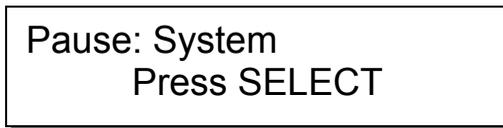
3　Press the NEXT or PREVIOUS key until the Time menu is displayed.

```
        Time
     10:42 am
```

4　Press the + or – key until the desired hour setting is displayed, then press the SELECT key.

Press the + or – key until the desired minute setting is displayed, then press the SELECT Key.

Press the + or – key until the desired am/pm setting is displayed, then press the SELECT Key.

5　Press the SELECT key to confirm the time. At this point, the time is stored with seconds set to zero.

Date

The QLS-8100 Xe provides a built-in, real-time clock that is used for displaying the time and date. It is also used to provide a time/date stamp for fonts and images. You will use the Date menu option to set the date.
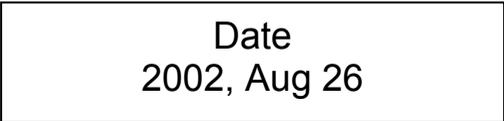
To set the date:

1 If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2 Press the NEXT or PREVIOUS key until the System menu is displayed. Then press the SELECT key.

```
Pause: System
        Press SELECT
```

3 Press the NEXT or PREVIOUS key until the Date menu is displayed.

```
        Date
    2002, Aug 26
```

4 Press the + or – key until the desired year setting is displayed, then press the SELECT key.

Press the + or – key until the desired month setting is displayed, then press the SELECT Key.

Press the + or – key until the desired day setting is displayed, then press the SELECT Key.

5 Press the SELECT key to confirm the date.

Factory Reset

The factory reset feature of the QLS-8100 Xe returns all parameters available through the printer's front panel to their factory default values. Use the procedure in this section to perform a factory reset to return the printer to the default values listed below.

Factory default values

TCP/IP address	192.168.255.1
TCP/IP mask	255.255.255.1
TCP/IP gateway	0.0.0.0
Data port	Parallel
Parallel mode	Auto
Baud rate	19200
RS232 handshaking	DTR/DSR
Calibrate	Continuous
Speed	3 in/sec
Intensity (heads 1-4)	16
Vertical offset	0
Horizontal offset	0
Counter	Off
Mirror mode	Off
Cut flag	Off
Cut offset	0
Print line adj. (heads 1-3)	0
Cross web adj. (heads 1-4)	0
Vertical baseline	0
Horizontal baseline	0
Drop/Lift Adjust	6
Cutter	Disabled
Ribbon sensor	Enabled
Ribbon type	Standard
Pull back	Disabled
Applicator	Disabled
Memory card write protect	Off

To perform a factory reset:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the System menu is displayed. Then press the SELECT key.

```
Pause: System
        Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Factory Reset menu is displayed.

```
         Factory Reset
         Press SELECT
```

4   Press the SELECT key to reset parameters to the factory default values.

Note: It is recommended that you print the printer settings before performing a factory reset to aid in restoring color alignment at a later time.

Options Menu

Other options are accessed via the Options menu. The following sections detail each of the features within this menu category.

Mirror Mode

The QLS-8100 Xe has the ability to print labels in a mirror image format. This format is useful when printing on transparent media to be applied to a transparent surface such as glass. This mode mirrors the printed image horizontally.

To enable or disable mirror mode:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Options menu is displayed. Then press the SELECT key.

```
Pause: Options
        Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Mirror Mode menu is displayed.
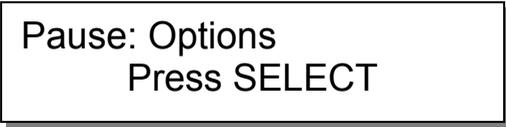
```
        Mirror Mode
            Off
```

4   Press the + or – key until the desired setting is displayed. Available options are On or Off.

5   Press the SELECT key to confirm your choice.

Cutter

If using an optional cutter or cutter/stacker accessory, you can enable it using the Cutter menu option.
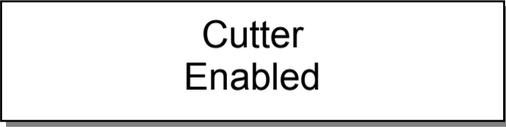
To enable or disable the cutter:

1 If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2 Press the NEXT or PREVIOUS key until the Options menu is displayed. Then press the SELECT key.

> Pause: Options
>   Press SELECT

3 Press the NEXT or PREVIOUS key until the Cutter menu is displayed.

> Cutter
> Enabled

4 Press the + or – key until the desired setting is displayed. Available options are Enabled or Disabled.

5 Press the SELECT key to confirm your choice.

Cut Flag

When using an optional cutter or cutter/stacker accessory, it is possible to enable or disable the insertion of extra blank tags to demarcate or flag the end of a batch.

When enabled, the printer will automatically insert one long and one short blank tag between batches. The longer tag is approximately 10 mm longer than the printed tag length. This extra length will allow you to quickly identify separate batches. With the flag enabled, the minimum tag length is **38 mm**.

To enable or disable the cut flag:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Options menu is displayed. Then press the SELECT key.

> Pause: Options
>   Press SELECT

3   Press the NEXT or PREVIOUS key until the Cut Flag menu is displayed.

> Cut Flag
>   Off

4 Press the + or – key until the desired setting is displayed. Available options are On or Off.

5 Press the SELECT key to confirm your choice.

Note: Do not select Append Flag or Set as Flag in Color QuickLabel 99 Pro if the flag is enabled via the front panel.

Note: The flag is counted as a batch of two tags (the long and the short tag). If the batch counter is enabled, the flag will appear as a batch of two labels printing; if the total counter is enabled, the flag is counted as two additional tags.

Note: The Cutter Flag option is not available when using the QLS Windows Printer Driver. Since batches cannot be queued when using the driver, there will always be a leader of media cut between batches.
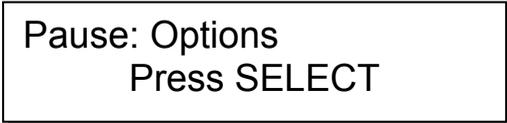
Pull Back - Enable/Disable

You can enable/disable the pull back function using the Pull Back option under the Options menu. This option requires a compressed air connection and special hardware.

Contact QuickLabel Systems for more information about the pull back function.

Note: The printer must be equipped with the media Pull Back option. Otherwise, the printer will return an error message if Pull Back is activated but the option is not present.
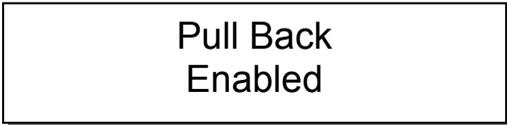
To enable media pull back:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Options menu is displayed. Then press the SELECT key.

> Pause: Options
>   Press SELECT

3   Press the NEXT or PREVIOUS key until the Pull Back menu is displayed.

> Pull Back
> Enabled

4   Press the + or – key to choose Enable. Available options are Enabled or Disabled.

5   Press the SELECT key to confirm your choice.

Note: Media rewind can also be activated via host command. Consult the QuickLabel Systems Host Protocol documentation for details on this command.

Applicator

You will use the Applicator option to enable or disable applicator mode. This option applies only to users integrating the printer with an applicator system.

To enable or disable the applicator:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Options menu is displayed. Then press the SELECT key.

```
Pause: Options
        Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Applicator menu is displayed.

```
        Applicator
        Enabled
```

4   Press the + or – key until the desired setting is displayed. Available options are Enabled or Disabled.

5   Press the SELECT key to confirm your choice.

Note: Before printing labels in applicator mode, use the Synchronize Labels command from the Operation menu to synchronize the printer with the applicator system.

The following message will appear if you attempt to print without synchronizing.

```
        Synch Required
```

Chapter 5: Operation

To prepare the QLS-8100 Xe for printing, make sure that:

- Water cooling system has been connected
- Power connection has been made
- Communication connections have been made between host and printer
- Compressed air is supplied to the printer if RibbonRation™ will be used
- Media and Thermal Transfer Ribbon has been loaded into the printer
- You have installed a software application from which you will print
- You have installed the QLS Windows Printer Driver (as needed)

Once you have completed and verified the above, you are ready to begin printing with your QLS-8100 Xe.

This chapter provides the following information:

- Information on printing with the QLS-8100 Xe
- Descriptions of print indicators
- Descriptions of error messages
- Information on color alignment and adjustments
- Information on evaluating print quality
- Instructions for enabling/disabling RibbonRation™
- Instructions for printing labels

Printing with the QLS-8100 Xe

Powering the Printer On

When you turn on your printer, it will execute an initialization procedure and self-test. During this process, the display will indicate the model number, firmware version, and memory check status of the printer.

The first display will show the version number of boot software.

```
QuickLabel Systems
Boot Version          V:1.1
```

The printer will initialize, perform a self-test, and load the system firmware.

```
QuickLabel Systems
Loading Program . . .
```

The next display will show the printer model, QLS-8100 Xe, followed by the system firmware version number. Periodically, QuickLabel Systems may provide upgraded firmware to add functionality to the printer. You may visit the QuickLabel Systems website to check for updated firmware.

```
QLS-8100Xe            V:1.2
Selftest Complete
```

Under normal conditions, the printer will display a Ready message at the end of the power-up sequence, indicating that the printer is ready to accept and print labels. When the printer is in a Ready state, the green Print/Pause LED will be off. When the printer is in a Pause state, this LED will be on.

When you download a label to a printer, the printer will begin printing the label as long as the printer is in the Ready state. You will note that Color QuickLabel 99 software will temporarily put the printer in a Pause state while it is downloading your label. This is done to ensure all data from multiple batches is downloaded and processed before the printer begins printing.

Operating Without Compressed Air

The QLS-8100 Xe RibbonRation ribbon conservation system has been designed so that the printer can operate normally without compressed air, but without the advantage of ribbon savings.

If sufficient compressed air is not available during the power up self-test, the printer will detect this condition and display the following message:

```
RUN with NO AIR?
Press: Select
```

Pressing the SELECT key will disable the RibbonRation system until the power to the unit is cycled and sufficient compressed air is available to the printer. If this message appears and you do have compressed air connected to the printer, check the pressure level on the air regulator to ensure that it meets the minimum **70 psi** requirement. Once sufficient air pressure is available to the printer, this message will disappear and the printer will go to a Ready state.

Memory Card Detection

The status of the memory card is checked during the power-up sequence. If the card is working properly, or if no card is inserted, the power-up sequence will proceed normally. If a problem with the memory card is detected, you will be given the option to perform a corrective action, which requires the memory card write protection setting to be off, or remove the card.

If an unformatted memory card is detected, you can format or remove the card. Refer to the System Menu section of Chapter 4 for more information.

```
Remove Flash Card or
SELECT to Format it
```

If the card is missing any required folders, you can press SELECT to add them, or remove the card. The message "Folders Complete" will appear when folders are successfully added.

```
Remove Flash Card or
SELECT to Add Folder
```

If the card is defective, you will be prompted to remove the card.

Printer Indicators

When power is on, the printer has four indicator lights that provide a visual cue to the printer's current state.

Indicator	Function
POWER	When the green POWER indicator light is illuminated, the printer is ready to operate. Assuming the printer is properly set up and a label has been downloaded or a test pattern has been selected pressing the PRINT/PAUSE key will cause printing to begin.
PRINT/PAUSE	If the PRINT/PAUSE key is pressed to pause the printer, the green indicator light adjacent to the key will illuminate. It will remain illuminated to remind you that the printer is in the PAUSE state, until you either resume printing, cancel the print request, or power off the printer. This light will also illuminate when the printer pauses due to an error, such as a media or ribbon out condition.
DATA	The amber DATA indicator light flashes whenever the printer is receiving data from the host computer.
ERROR	The red ERROR indicator light illuminates whenever an error condition has occurred. An additional message may be displayed on the LCD display to indicate the nature of the error.

The alphanumeric LCD display provides detailed information about the operational status of the printer, menu functions, or specific information about error conditions.

Error Messages

The following pages show a number of possible error messages that may be encountered during operation. Instructions are provided on how to clear the condition that caused the error message to be displayed.

```
ERROR: Media out or
  sensor is off media
```

- The label or tag media has been consumed. Reload a new roll of media.
- The printer has not been properly calibrated. Recalibrate for the proper media.
- The sensor has been repositioned off of the gap or notch. Ensure that the sensor position is correct and recalibrate if necessary.
- The printer requires media recalibration.

```
ERROR: Media out or
  Motor Stall
```

- The label or tag media has been consumed. Reload a new roll of media.
- The media is not making positive contact with the Media Travel Roller or the media travel roller is not turning freely. Ensure that the roller spins freely and that the media is making contact with the roller causing it to turn at a regular rate.

```
Ribbon Out!!!
Ribbon 1
```

- The printer is out of ribbon on one or more print stations. Reload a new roll of ribbon on the indicated print station(s).
- The ribbon unwind is not turning at a steady rate. Ensure that the ribbon has been loaded correctly and that the ribbon unwind tension has not been set too high.

After reloading media or ribbon, the printer will reprint any label formats that were partially under the print stations when the error occurred.

Note: Media Out or Film Out errors can occur if either the media or film is not feeding, winding or unwinding properly. A physical adjustment to the media path or film tension usually corrects this condition. In order to resume printing, you must raise and lower at least one printhead to clear the internal error.

Warning: Whenever you are not using the printer, leave the drive roll in the open position. This will prevent flat areas from developing which could result in print quality or media slip issues.

> Drive Roll Up/No Air

- Indicates that the drive roller is in the up position or the air was shut off/disconnected. The printer cannot resume printing until the drive roller is lowered or the air turned back on/re-connected.

> Drive Roll Up

- Indicates that the drive roller is in the up position. The printer cannot resume printing until the drive roller is lowered.

> Format Error
>   label name: error #

- Indicates that the printer received incorrect or corrupted commands from the host software. If this error occurs when printing from Color QuickLabel 99 software, cycle the power on the printer and attempt to reprint the same format or a new label format.

Note: For information on the specific error number, refer to Appendix F: Format error codes.

```
Data Port Error
Check Comm Setup
```

- Indicates that data port-specific commands were received via the status port, causing a communications error. Ensure that the data port is set up correctly.

```
Head x up
SELECT to disable
```

- Displayed when a printhead x is lifted after the printer has been powered on. Pressing select will disable this head until the printer power has been cycled. The following message is displayed after a printhead is disabled:

```
Head x Disabled
```

```
Printheads Disabled
Hd1    Hd2    Hd3    Hd4
```

- Displayed after the self-test when the printer is powered on with one or more of the heads already lifted. The printer indicates which heads have been disabled upon power up.

```
Deletes all labels
SELECT to confirm
```

- Displayed when the CANCEL key is pressed while a batch is being printed. Pressing the SELECT key will cancel all pending labels in the batch.

```
NVRAM Test Failed
Please reset printer
```

- Displayed during the printer power-up sequence if the non-volatile RAM test fails. Powering off the printer, and then powering it back on may resolve the issue. If this does not resolve the issue, contact QuickLabel Systems Technical Support.

```
          Invalid Ribbon
      Detected On Head x
```

- Displayed if non-QuickLabel Systems Thermal Transfer Ribbon is loaded. The printer will not print if invalid ribbon is used. Replace the invalid ribbon with Genuine QuickLabel Systems Ribbon to restore printing functionality. Contact QuickLabel Systems to purchase ribbon.

```
        Excessive Heat
     Detected on Head x
```

- Displayed if the printhead exceeds a safe operating temperature. The printer will automatically pause to prevent damage to the printhead. Allow the printhead to cool for a period of time. Then press the PRINT/PAUSE key to resume printing.

```
       Ribbon Detection
        System Failure
```
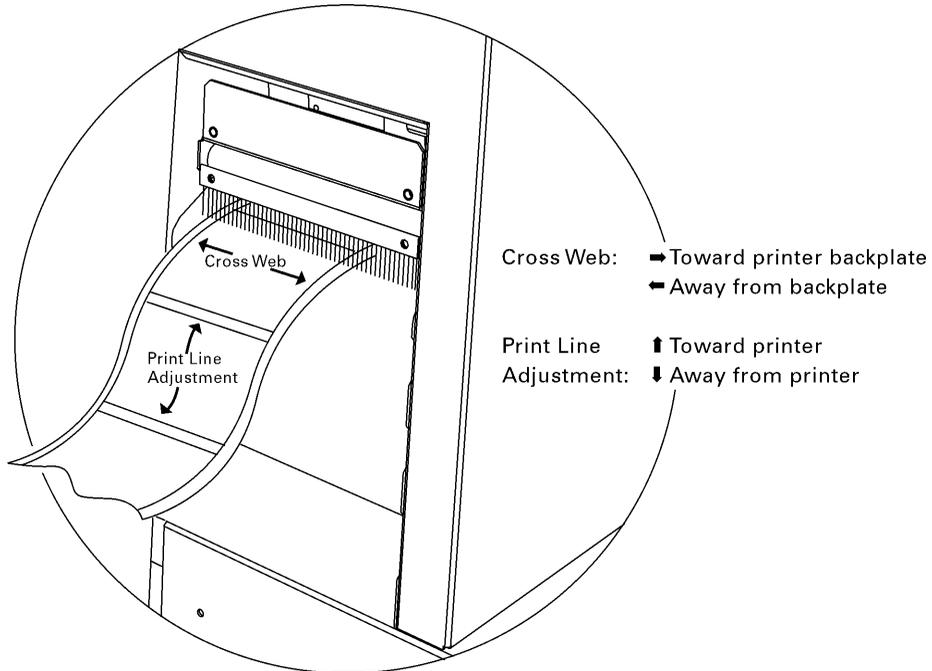
- Displayed if the ribbon detection system is not operating correctly. The printer will not print when this system is not operating. Contact QuickLabel Systems Technical Support.

Color Alignment

Color alignment refers to the alignment of each color with respect to the other colors:

Print Line adjustment refers to the vertical adjustment of a color's print position on the media.

Cross-Web adjustment refers to the horizontal adjustment of a color's print position on the media.


Cross Web: ➡ Toward printer backplate
            ⬅ Away from backplate

Print Line   ⬆ Toward printer
Adjustment: ⬇ Away from printer

To examine the color alignment, you can print the process **Proc. Block** test pattern. The process black box on this test pattern should appear black, without any other color along an edge. If a color shadow appears along an edge, that color's print station is in need of alignment.

You will also examine the block patterns to observe both the horizontal and vertical alignment. If any color appears horizontally misaligned, the cross web values require adjustment; if any color appears vertically misaligned, the print line adjustment values require adjustment.
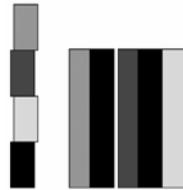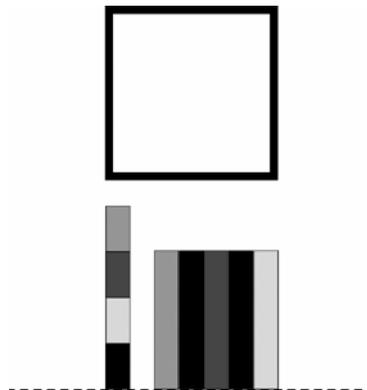

horizontal misalignment requires cross web adjustment
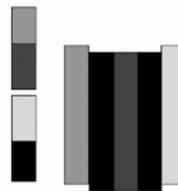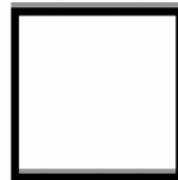
vertical misalignment requires print line adjustment

When the black box prints without any color shadows and the block pattern appears correctly aligned, the color alignment is optimal.

Common Adjustments and Tasks

Test Patterns

The QLS-8100 Xe is equipped with a number of built-in test patterns used for checking color alignment, print quality, and printhead integrity.

Refer to the **Cal & Setup Menu** section of Chapter 4 for more information on test prints.

Print Line Adjustment

Print line adjustments allow you to align the printing of each of the four print stations to obtain accurate color registration in the media travel direction.

Refer to the **Ready State & Adjust Menu** section of Chapter 4 for more information on print line adjustments.

Cross Web Adjustment

Cross web adjustments allow you to align the printing of each of the four print stations to obtain accurate color registration across the width of the label.

Refer to the **Ready State & Adjust Menu** section of Chapter 4 for more information on print line adjustments.

Advancing the Media

The FORM FEED/ADVANCE key serves two functions. If the key is pressed momentarily and released, the printer will advance the media by one calibrated media length. If the key is pressed and held, the printer will advance media until the key is released.

The FORM FEED/ADVANCE function will act as an ADVANCE function if the printer has not been calibrated for the media.

Print Speed

This function allows you to choose the printing speed. The printer is capable of printing at speeds of 2 – 5 in/s (inches per second) in 1 in/s increments.

Refer to the **Ready State & Adjust Menu** section of Chapter 4 for more information on print speed adjustments.

Evaluating Print Quality

1 Press the PRINT / PAUSE key to put the printer into the pause mode.

2 Press the NEXT or PREVIOUS key until the Cal & Setup menu is displayed.

> Pause: Cal & Setup
>   Press SELECT

3 Press SELECT. Then press the NEXT or PREVIOUS key until the Test Print menu is displayed.

> Test Print
> Test Pattern: = 2 in

4 Press the + or - key to scroll through the test patterns and select Test Pattern: x in. at a width that is appropriate for the width of your media. Print widths for the Test Pattern are 2, 4, 6, 7, or 8 inches.

5 Press the SELECT key again to start the printing of the line test pattern.

6 Evaluate the test pattern to determine if printing is uniformly solid and crisp. Press the PRINT / PAUSE key at any time to stop printing.

7 If print quality is not satisfactory, allow the test pattern to continue to print and press the NEXT or PREVIOUS key to access any of the parameters that can be adjusted while operating in the test print mode.

The print adjustment parameters that can be changed are:

- Intensity for each printhead
- Speed
- Print line adjustment
- Cross web adjustment
- Vertical offset
- Horizontal offset

8 As each parameter is displayed, press the + or - key to adjust the selected setting.

9 As you change the parameter settings, examine the test pattern to ensure that the changes you are making are improving print quality.

10 Continue to adjust the parameter settings until you are satisfied that print quality has been optimized.

Enabling and Disabling RibbonRation™

The QLS-8100 Xe RibbonRation™ feature can be enabled or disabled via the user control panel of the printer as well as Color QuickLabel 99® software or the QuickLabel Systems Windows Printer Driver. The software will always override any setting that has been made on the front panel of the printer.

To enable/disable RibbonRation™ from the printer control panel:

1 Power off the printer if it is on.

2 Disconnect the source of compressed air if it is connected.

3 Power the printer on. The display will show the following prompt:

```
RUN with NO AIR ?
Press: Select
```

4 Press the SELECT key. RibbonRation™ is now disabled.

To enable/disable RibbonRation™ from Color QuickLabel 99®:

1 Open Color QuickLabel 99® Create or Print application.

2 Choose the File >> Print Setup or File >> Printer Settings... menu.

3 To Enable, Check the Save Ribbon option. To Disable, Uncheck the Save Ribbon option.

To enable/disable RibbonRation™ from the Windows Printer Driver:

1 In Windows, choose Start >> Settings >> Printers, and then right-click on the QLS-8100 Xe driver.

2 Choose Properties and click on the Device Options tab.

3 To enable, check the Enable Ribbon Ration option. To disable, uncheck the Enable Ribbon Ration option.

Printing Labels

To print labels, you need to send a label from QuickLabel Systems' Color QuickLabel 99® Pro software program, or from a 3rd party application via the QuickLabel Systems Windows Printer Driver. Refer to the Appendix D and E of this manual for basic instructions in setting up the software.

Before sending a label to the QLS-8100 Xe:

1   Make sure that the QLS-8100 Xe is in a Ready state. Press the PRINT/PAUSE pushbutton if necessary until Ready is displayed.

2   Specify the label quantity from within your software application.

3   Send the label you wish to print from your software application. The QLS-8100 Xe will begin printing the label.

4   Use the printer menus to change any parameters may need adjustment.

Note: It is recommended that settings be changed in Color QuickLabel 99 software or the QLS Windows Printer Driver as these would override any settings made through the printer control panel.

5   Press the PRINT/PAUSE key as necessary to pause or resume printing. The printer will continue to print until the specified number of labels have been printed.

Note: When the QLS-8100 Xe is paused during the course of printing a batch of labels, a small white horizontal line will appear across the labels in the location of the printheads. This is a normal result of interrupting the print operation. It is recommended that you limit the use of the Pause function while printing.

Chapter 6:
Advanced Adjustments

Your QLS-8100 Xe has been carefully set at the factory to print optimally using your specific type of media and ribbon. This chapter describes how to perform advanced adjustments that may be needed when specialized media is used in the printer.

This chapter explains how to:

- Adjust the printhead alignment relative to the platen roll to optimize ribbon transfer for different material types or thicknesses.

- Adjust the angularity of the printheads with respect to each other so that color alignment is consistent across the width of the media.

- Adjust the thermal transfer ribbon tension to alleviate wrinkling or smudging.

- Adjust the Printhead Lift and Drive Station Lift Screws to redistribute downward pressure when using narrow media.

- Set the Vertical and Horizontal Baselines so that print jobs sent to multiple printers result in identical image positioning on the label.

Printhead Tangency Alignment

The proper alignment of the printhead over the platen roller produces optimum transfer of ribbon to the media. Although this mechanical adjustment is a factory setting, there are situations where a slight repositioning of the platen support strut will optimize print quality on different media types and thicknesses.

Tools Needed:
7″ long, #2 Phillips Screwdriver
3/16″ Open End Wrench or Adjustable Wrench

---

1 Loosen the two outside screws on either side of the platen shaft end plate.

2 Insert the #2 screwdriver through the hole in the frame plate just to the right of the endplate.

3 Loosen the screw on the main plate located inline with the hole.

4 Print a block image the width of the label with a saturated color fill of the print station to be adjusted (i.e. pure Cyan, Magenta, Yellow, Black, or Spot Color).

   Print several labels and rotate the shaft protruding out of the frame plate just under the station printing the image. Turn the knob with the 3/16″ wrench until the printed blocks appear fully saturated with no lines, breakup, or white pinholes throughout the fill.

5 Press the PRINT/PAUSE key to pause printing.

6 Tighten the three screws at the main plate and at the platen shaft end plate.

7 Press the PRINT/PAUSE key to resume printing a few more labels to verify that the alignment has been optimized.

Printhead Angularity Adjustment

The color registration is monitored on the right side of the label as it exits the printer. The Test Print (Proc. Block CMYK) on the display provides a test pattern for adjusting the Print Line and Cross Web values. There is a mechanical adjustment for aligning the color registration on the left side of the label which positions all printheads precisely parallel to each other. The following procedure is referred to as the color angularity adjustment.

Tools Needed:
1/4" Drive Rachet
3/8" Socket
7/64" Allen Wrench

1   Print a test pattern (Proc. Block CMYK) to ensure color alignment on the right side of the label.

2   Scroll to Horizontal Line Pattern and print the process color lines across the label.

3   Closely inspect the lines on the left side. If any colors are above or below the lines then the printstation for that color requires an angle adjustment.

4   A 1/4" drive ratchet and 3/8" socket are required to loosen two nuts on the printhead bracket. Access to these nuts is through the large 3/4" holes in the black cover brackets over each printstation. Do not remove these two nuts. Simply turn them counterclockwise 1/2 revolution.

5   Lift the printhead up by the handle. Locate the spring-loaded cap screw behind the black ribbon guide roller at the rear of the printstation. The screw faces the rear on the outside end of the printhead bracket. With a 7/64" Allen wrench turn the cap screw clockwise to shift the printed line toward the front of the printer.

6   Lower the printhead and print the Horizontal lines. Note the physical change in the printed line of the affected printstation. Repeat step 5 until the printed line is directly over the other colors.

7   Tighten the two nuts on the printhead bracket. Care should be taken not to over-tighten this hardware or damage to the printhead or print station may result. When all printstations are aligned, all colors will be perfectly superimposed on the process black line at the top of the test pattern.

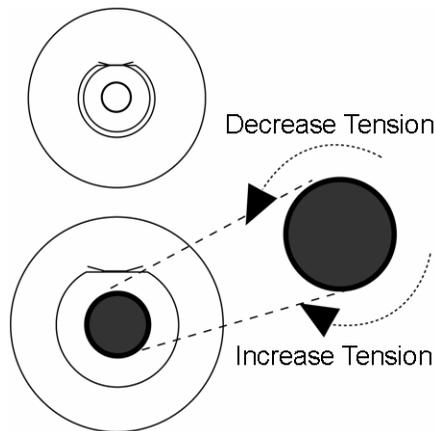# Ribbon Wrinkling Adjustments

The QLS-8100 Xe features an automatic ribbon tensioning mechanism to ensure consistent tension from a full to empty ribbon supply roll.

The ribbon width should be matched to the label or tag width. Make sure that the ribbon is not more than ¼ inch wider than the label because it may cause the ribbon to wrinkle.

The ribbon should also not be narrower than the label or tag because it may cause unnecessary wear to the printhead.

Normally, a manual ribbon tension adjustment is not required. However, if you notice film wrinkling or one of the colors smudging, you can adjust the tension to alleviate these conditions.

- If film is *wrinkling* on a station, turn the knob on the ribbon supply mandrel **clockwise** to increase the tension.
- If ink is *smudging* at a station, turn the knob on the ribbon supply mandrel **counterclockwise** to decrease the tension.

Ribbon wrinkling may also be alleviated by adjusting the eccentric at the end of the ribbon guide shaft located at the lower, rear section of the print station. Loosen the screw securing the shaft and using a wrench, turn the eccentric until wrinkles have been eliminated then retighten the screw to secure the shaft.
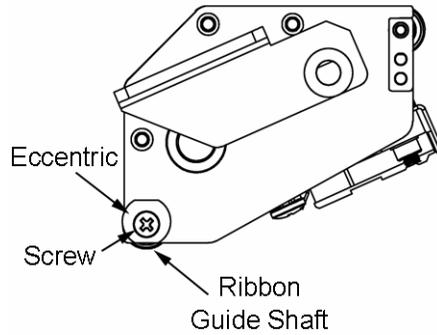
Printhead & Drive Station Lift

Your QLS-8100 Xe printhead and drive station are mounted to a center-pivoting shaft. This permits even pressure to be applied across the width of the media. When using narrow media, the Printhead and Drive Station Lift Screws allows you to relieve unnecessary pressure against the platen roller and drive roller. This will prolong the life of the printhead and platen while providing a more even application of downward pressure onto the media where it is needed.

Tools Needed:
Slip Joint Pliers

Using a pair of slip-joint pliers grip the Printhead Lift Screw or the Drive Station Lift Screw

- Turn the screw **clockwise** to lift the head or station and relieve pressure.
- Turn the screw **counterclockwise** to lower the head or station and apply pressure

This adjustment is best performed while the printer is printing so that you can evaluate print quality as adjustments are made.

Vertical Baseline

This function is used to synchronize printing when using multiple QLS-8100 Xe printers. If you are sending the same image file to two or more printers and notice that the image prints in different vertical locations, you can use this function to move the vertical baseline of a printer.
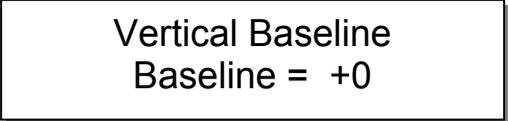
To adjust the vertical baseline:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Cal & Setup menu is displayed. Then press the SELECT key.

> Pause: Cal & Setup
> Press SELECT

3   Press the NEXT or PREVIOUS key until the Vertical Baseline menu is displayed.

> Vertical Baseline
> Baseline = +0

4   Press the + or – key until the desired baseline setting is displayed. Baseline settings range from -120 through +120 dots.

5   Press the SELECT key to confirm the baseline.

6   Repeat this process on each printer requiring a baseline adjustment.

Horizontal Baseline

This function is used to synchronize printing when using multiple QLS-8100 Xe printers. If you are sending the same image file to two or more printers and notice that the image prints in different horizontal locations, you can use this function to move the horizontal baseline of a printer.
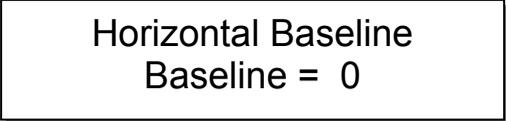
To adjust the horizontal baseline:

1   If the printer is in a Ready state, press the PRINT/PAUSE key to pause the printer.

2   Press the NEXT or PREVIOUS key until the Cal & Setup menu is displayed. Then press the SELECT key.

```
Pause: Cal & Setup
       Press SELECT
```

3   Press the NEXT or PREVIOUS key until the Horizontal Baseline menu is displayed.

```
    Horizontal Baseline
      Baseline =  0
```

4   Press the + or – key until the desired baseline setting is displayed. Baseline settings range from <-120 through -> 120 dots.

5   Press the SELECT key to confirm the baseline.

6   Repeat this process on each printer requiring a baseline adjustment.

Chapter 7: Maintenance and Repair

Your QLS-8100 Xe is designed for long-life and trouble-free operation. In order to keep your printer operating at optimal performance, some periodic maintenance is required.

This chapter provides the following information:

- List of recommended tools for performing maintenance and repairs.
- Procedure for adding water to the cooling system.
- Procedure for uninstalling the water cooling system.
- Procedure for cleaning the print stations.
- Procedure for replacement of a printhead.
- Drive roller, pinch roller, and platen roller replacement.
- Changing the fuse or line voltage.
- Performing a firmware upgrade.

Recommended Tool List

The following is a list of recommended tools for maintenance and repair of the QLS-8100 Xe.

3/16″ X 4″ long Slotted Screwdriver

3/32″ X 4″ long Slotted Screwdriver

#2 1/4″ X 15/16″ Phillips Screwdriver

#2 1/4″ X 8″ Phillips Screwdriver

#1 3/16″ X 3″ Phillips Screwdriver

Nut Driver Set containing 1/4″, 3/16″, 5/16″, 3/8″, and 11/32″

Ball End Allen Wrench Set containing .050″, 1/16″, 3/32″, 5/64″, and 7/64″

Open End Wrenches containing 1/4″, 3/8″, 5/16″, and 7/16″

1/4″ Drive Ratchet and Socket Set containing 3/8″ and 7/16″ sockets

Flat Nose Pliers

Slip Joint Pliers

Snap Ring Pliers

Volt-Ohm Meter

Millimeter Scale

Routine Cleaning

The parts of each print station, especially those that come in direct contact with the ribbon, will accumulate residue. To maintain clear and crisp printing, these parts should be cleaned frequently. The printheads in particular require regular cleaning. QuickLabel Systems recommend that these surfaces be cleaned when changing a roll of media or ribbon.

The illustration below indicates the locations for regular cleaning. It is recommended that these surfaces be cleaned with a soft cloth or lint-free wipe soaked with Isopropyl Alcohol. Harsh chemicals and solvents should be avoided as damage to the printhead could occur.
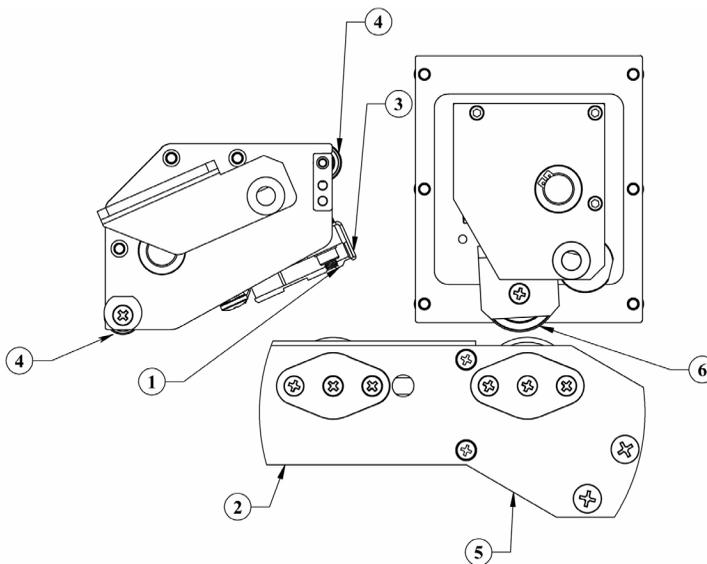
1	Print Line	4	Ribbon Guide Rollers
2	Platen Roller	5	Drive Roller
3	Peel Edge	6	Pinch Roller

To clean printheads:

1   While the printer is on, lift the printhead that will be cleaned. The following message will display.

```
Head x up
SELECT to disable
```

Press the SELECT button. The indicated print station will be disabled and the following message will display.

```
Head x Disabled
```

2   Turn the printer off and unplug the AC power cord.

Caution: Always power off and unplug the printer before cleaning the printheads.

3   Clean the printhead with a soft cloth or lint-free wipe soaked with Isopropyl Alcohol. Harsh chemicals and solvents should be avoided as damage to the printhead could occur.

Caution: Never use a hard object of any sort to clean the printheads. Damage will result if the edge of any hard object is used to scrape away accumulated printing residue from the printhead.
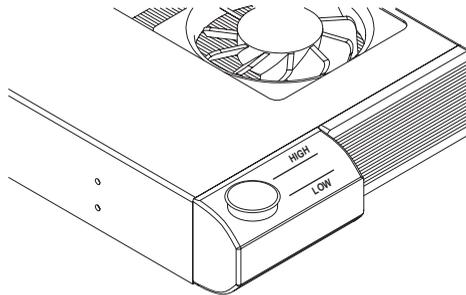
Refilling the Cooling System

The cooling system circulates cool water through the printhead mounting blocks to aid in maintaining optimum printhead temperature.

During printer operation, the water level must stay between the HIGH and LOW indicators. If the water level is below the LOW indicator, the cooling system will become ineffective. It is recommended that you check the water level periodically and add water if necessary

Caution: Only use non-conductive, distilled water. Other liquid can cause oxidation or corrosive damage to the cooling mechanism.

1   Remove the reservoir cap from each cooling drive, and then fill them with the supplied distilled water. Ensure that the water level is between the HIGH and LOW indicators.

2   Replace the reservoir caps.

Uninstalling the Cooling System

If the printer will be shipped to another location, it is necessary to uninstall the water cooling system. After the system is uninstalled, the water remaining in the printer must be purged.

Two water purging tubes with plug connectors are supplied with the printer. One tube is 12 inches in length, and the other is 36 inches in length. These tubes are used to purge remaining water from the inside of the printer.
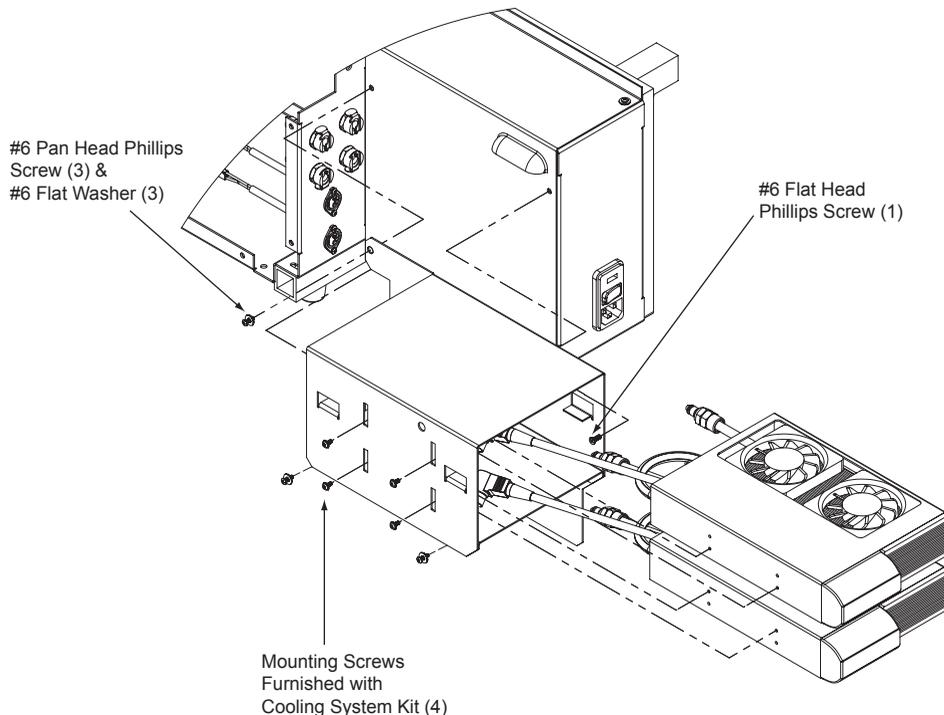

Tools/Items Needed:
Phillips Screwdriver
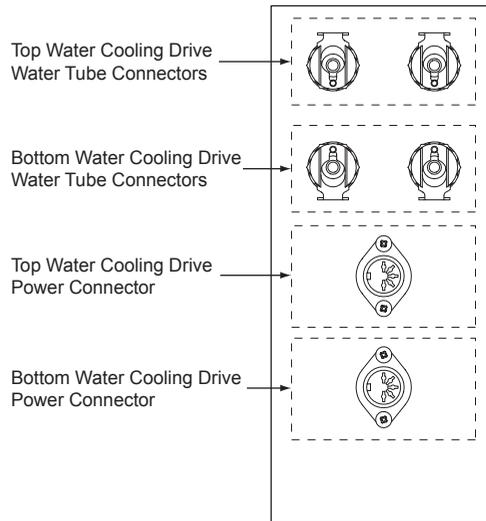Empty Receptacle for Drained Water (such as an empty pail)
Supplied 12" and 36" Water Purging Tubes
Compressed Air Connection

It may be helpful to refer to the following assembly diagram when uninstalling the water cooling system.


#6 Pan Head Phillips Screw (3) &
#6 Flat Washer (3)

#6 Flat Head Phillips Screw (1)

Mounting Screws Furnished with Cooling System Kit (4)

1 Remove the AC power cord from the outlet, and then disconnect the power cord from the rear of the printer.

2 Disconnect the power cord for each cooling drive from the printer. Then disconnect the water tubes for each cooling drive from the printer.

Top Water Cooling Drive
Water Tube Connectors

Bottom Water Cooling Drive
Water Tube Connectors

Top Water Cooling Drive
Power Connector

Bottom Water Cooling Drive
Power Connector

3 Remove the Mounting Screws to disconnect the water cooling drives from the mounting bracket. Two screws are used for each drive.

4 Remove the water cooling drives from the mounting bracket. Then empty the water from the cooling drives.

5 Remove the mounting bracket by removing the #6 Pan Head Phillips screws, #6 Flat Washers, and the #6 Flat Head Phillips screw. A screwdriver hole is present on the outside of the mounting bracket.

6 Turn the air regulator pressure to zero (0) by pulling down on the regulator knob to unlock it, and then turning it counterclockwise until the pressure is 0 PSI.

Then disconnect the small flexible air tube from the air regulator by gently pulling it out from the air regulator connector. This air regulator connection will be used in the following steps.

7   Place the end of the 36″ flexible tube into the water draining receptacle. Then connect the 36″ tube to one of the left-side water connectors on the rear of the printer.

Water Tube Connectors

Connect 36" Tube
To Draining Receptacle

Connect 12" Tube
To Air Regulator
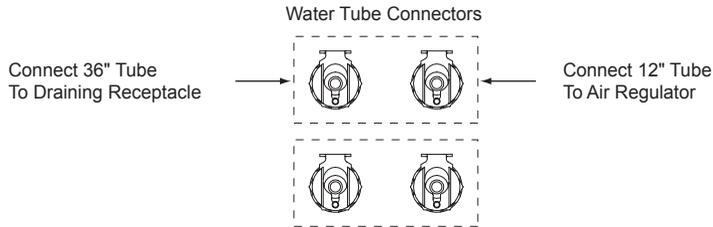
Connect the 12″ tube into the corresponding water connector directly to the right, as indicated in the previous diagram. Then connect the end of the 12″ flexible tube to the air regulator.

8   Set the air regulator to 70 PSI. To adjust the pressure, pull down on the regulator knob to unlock it and turn the knob until the desired pressure level is reached:

- Turn the knob clockwise to increase air pressure
- Turn the knob counterclockwise to decrease air pressure

Water from inside the printer will be forced out of the system and into the water draining receptacle.

When the water from the printer is emptied, turn the air regulator to 0 PSI. Then disconnect the water purging tubes from the printer.

9   Repeat steps 7 - 8 for the remaining set of water cooling drive connectors.

For example, if the top cooling drive tubes were purged in the previous steps, repeat this process on the bottom cooling drive tubes.

10 Re-connect the small flexible air tube to the air regulator. Then set the air regulator back to 70 PSI.

Printhead Replacement

After normal use or as a result of a failure, the printheads will eventually need to be replaced.

Some symptoms of printhead failure include:

- Significant reduction in printed image darkness that cannot be corrected by using an increased print intensity.

- Vertical line(s) of missing print running through the entire length of the label.

- A wide vertical area of missing print indicating physical wear to the printhead or an electrical failure.

The following procedure explains how to remove and replace a printhead.

Caution: Printheads can be damaged by static electricity. Always use standard anti-static procedures when replacing printheads.

---

1   While the printer is on, lift the printhead that will be changed. The following message will display.
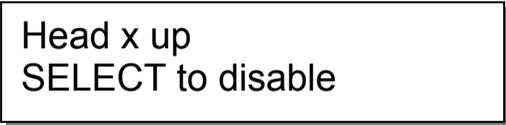
```
Head x up
SELECT to disable
```

Press the SELECT button. The indicated print station will be disabled and the following message will display.

```
Head x Disabled
```
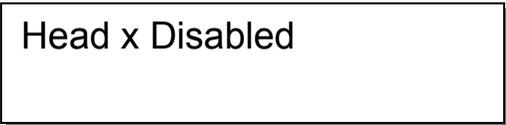
2   Turn the printer off and unplug the AC power cord.

---

3 Remove the black guide roller under the static brush for easier access to the printhead mounting screw. There are three inline screws on the outer plate at the end of the guide roller. Remove the two lower screws and pull on the tab to slide the center shaft out, releasing the guide roller to drop down.

4 Remove the platen roller if you are changing the printhead on print station #1.

5 Use a Phillips screwdriver to loosen the captive printhead mounting screw over the top of the printhead.

6 Raise the printhead assembly by the handle to allow the printhead to drop down away from the bracket.

7 Gently pull the printhead out to the side until the three connectors on the top of the head are exposed. These connectors are a press fit. Pull up on each harness to disengage them from the rear of the printhead.

Note: A conductive thermal compound is present on the printhead mounting blocks.

Use caution when handling printheads to avoid touching the compound. If the compound comes in contact with any part of the printer other than the printhead mounting blocks and printheads, clean the compound from the affected area.

8 Reconnect the three harness connectors to the replacement printhead and push the head back under the bracket. There are locating pins under the bracket. Position the printhead over these pins until the printhead seats flat against the bracket.

9   Tighten the captive mounting screw 1/4 turn to secure the printhead to the bracket.

Caution: Do not over-tighten the captive mounting screw. Damage or warpage to the printhead could occur. The screw should only be ¼ turn beyond hand tight.

Ensure the harness is routed straight through the hole in the main plate.

10 Reinstall the platen roller on print station #1 if it was removed.

11 Reposition the black guide roller and secure it with the two screws.

Black Guide Roller
Two Screws
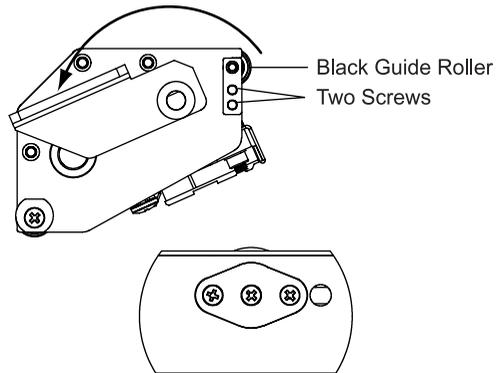
Platen Replacement

Platen rollers are like tires on a car, in that they wear with use. After continued normal use, it may be necessary to replace the printhead platen rollers. After prolonged use, one or more rollers may develop flat areas which will affect print quality. The following procedures explain how to remove and replace the platen rollers.

1 While the printer is on, lift the printhead above the platen roller that will be replaced. The following message will display.

```
Head x up
SELECT to disable
```

Press the SELECT button. The indicated print station will be disabled and the following message will display.

```
Head x Disabled
```
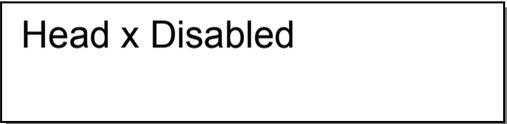
2 Turn the printer off and unplug the AC power cord. Lift the printer's side cover.

3 Remove any label stock that may be positioned over the platen roller.

4 Remove the two outside screws from the shaft end plate at the outer end of the platen shaft on the frame plate.

5 Reach under the printer to loosen the collar on the outside end of the platen roller by turning the black lever counterclockwise.

6 Slide the plate and shaft assembly away from the frame plate. The collar and roller will drop down as this assembly is pulled away from the frame plate.

7 Reinsert the small plate and shaft assembly into the hole in the side plate. Add the collar over the shaft behind the side plate.

8 Line up the new roller under the printer with the shaft. Be sure the roller end with the 1/8″ bearing surface is against the main plate on the inside of the printer.

9 Insert the shaft end plate assembly all the way through the roller. Secure the shaft end plate with the two outside screws.

10 Push the collar against the platen roller to reduce the side play and tighten the lever by turning it clockwise.

Drive and Pinch Roller Replacement

After prolonged use, the drive roller or pinch roller may develop flat areas, which will impede consistent media travel. When this occurs, the roller will require replacement. The following procedures explain how to remove and replace the drive roller and pinch roller.

Tools Needed:
#1 Phillips Screwdriver
3/32" Allen Wrench
1/8" Allen Wrench

Drive roller replacement

1 Turn the printer off and unplug the AC power cord. Lift the printer's side cover.

2 Remove any media that may be exiting over the drive roller.

3 Flip the drive roll cam up to relieve pressure on the roller.

4 Remove the two outside screws from the shaft end plate at the end of the drive roll shaft.

5 Slide this end plate and shaft assembly away from the frame plate. A 3/4" cup washer will drop down as this assembly is pulled away from the side plate.

6 Turn the drive roller until the cap screw located on the inside of the roller close to the main plate is visible from the front of the printer. Loosen but do not remove the set screw with a 3/32" Allen wrench. Turn the roller to loosen the second set screw in the same location.

7 Slide the drive roll away from the main plate until it drops down.

8 Insert the new drive roll so the set screw is over the flat of the coupling shaft. Tighten the set screw lightly.

9 Re-install the shaft end plate and shaft assembly back through the frame plate and into the bearing of the drive roll. Slip the cup washer over the plate shaft just before inserting it into the drive roll bearing. The cup must face away from the bearing surface as illustrated.

10 Secure the shaft end plate with the two mounting screws.

11 Loosen the set screw on the inner side of the drive roll and pull the roller to the outside against the frame plate. This will reduce the side play on the roller. Tighten both set screws on the inner drive roll side.

Pinch Roller Replacement

1 Turn the printer off and unplug the AC power cord. Lift the printer's side cover.

2 Remove the right side cover and control panel of the printer.

3 Remove any media that may be exiting over the drive roll.

4 Flip the drive roll cam up to relieve pressure on the roll.

5 Before removing the pinch roller assembly, the pressure must be taken off of this location. There are two screws along the bottom and two screws at the main plate. Dislodge the drive station gas spring. Grip a pair of adjustable pliers onto the top of the gas spring. Push down and away from the main plate to separate it from the ball joint on the main plate.

6 Remove the collar directly above the pinch roller with a 1/8" Allen wrench.

7 Slide the pinch roller assembly off of the middle shaft.

8 Remove the two Phillips screws on each end of the roller. The roller will drop down.

9 Position the new roller in place. Add a cup washer between roller ends and bracket. The cups of the washers must face away from the bearings on each roller end. Secure the roller using the two Phillips screws.

10 Slide the roller assembly back over the middle shaft. The ball end of the set screws must face toward the front of the printer.

11 Lock the collar against the roller assembly.

12 Press the top of the gas spring back over the ball joint on the main plate.

13 Reinstall the control panel and rear cover of the printer.

Changing the Fuse or Line Voltage

Your QLS-8100 Xe has been configured for your line voltage at the factory. Should you need to replace the fuse(s) or reconfigure the printer for a different line voltage, follow the procedure outlined below.

Tools Needed:
Small, flat-blade screwdriver

1   Turn the printer off and unplug the AC power cord.

2   Insert a small, flat-blade screwdriver into the slot at the top of the AC Power Input.

3   Gently twist the screwdriver to pry open the plastic door. The door will swing down when fully opened.

4   Insert the screwdriver between the AC Power Input and the red Fuse Holder module.

5   Gently twist the screwdriver until the Fuse Holder begins to slide out. Grasp the Fuse holder and slide it completely out of the AC Power Input.

6   Install the appropriate fuse(s) as follows:

> 110 VAC Operation   1 each - 8.0A fuse   (P/N 11540-008)
> Install the metal shorting clip on fuse holder.

> 220 VAC Operation   2 each - 6.3A fuse   (P/N 24034-002)
> Remove the metal shorting clip on fuse holder.

7   Orient the Fuse Holder such that the desired line voltage is near the top of the Fuse Holder.

8   Slide the Fuse Holder into the AC Power Input until it is fully seated.

9   Swing the plastic door up and push firmly until a snap is heard indicating that the door is fully closed.

10 Reconnect the AC Power Cord.

Firmware Upgrades

Firmware is the internal operating system of the QLS-8100 Xe. Periodically, firmware upgrades are made available to add new features or change operational characteristics of the QLS-8100 Xe. A firmware upgrade should only be performed when available new functionality is needed or when a firmware upgrade is required for compatibility with QuickLabel Systems' software.

Note: It is good operating procedure to first test the printer after installing new firmware as some adjustments may be required. This will minimize the impact on label production within your application.

Before beginning the upgrade process, please verify the following:

• The printer is powered on and is displaying "Ready"
• A CompactFlash card is installed in the printer
• The CompactFlash card has at least 4M of free space
• The Write Protect setting is OFF in the printer's System menu

Obtain the firmware upgrade software using one of the following methods:

• You can obtain an upgrade CD from QuickLabel Systems. If you use this method, follow the instructions provided on the CD label.
• You can download the firmware upgrade from our website, www.quicklabelsystems.com. If you use this method, ensure that all upgrade files are located in the same directory (System.mot, l11config.bld, Ocr_a.bin, xeflash.exe, etc.).

To upgrade the printer:
**1** Launch the "XeFlash.exe" file. The following screen will appear.
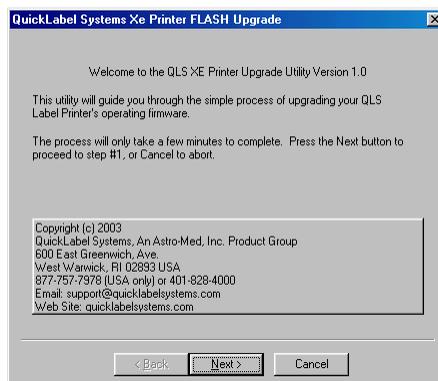
2 Choose the Next button. The following screen will appear.
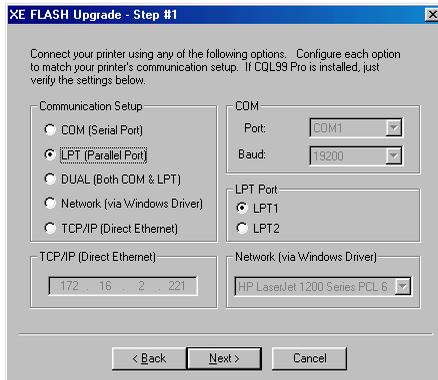
3 Set up communications to your printer by selecting the appropriate connection options.

If Color QuickLabel 99 Pro is installed, these settings will reflect the last settings used in Color QuickLabel 99 Pro. If necessary, change the setup as required. Remember to also configure the printer, if necessary.

**4** Choose the Next button. The following screen will appear.
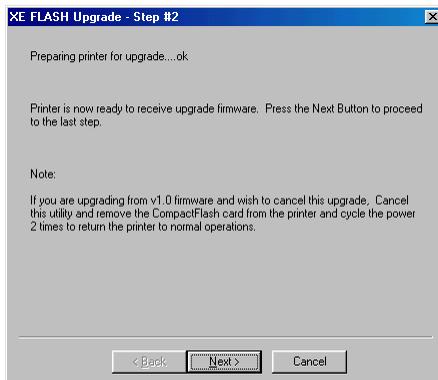
The flash utility will query the printer to determine if the upgrade can continue. When complete, the menu will indicate that you may either continue with the upgrade or that an error occurred.

If an error occurs, follow the message instructions to correct the problem on the printer if necessary and press the Retry button.

5 When no error is indicated, press the Next button to proceed to the final screen.
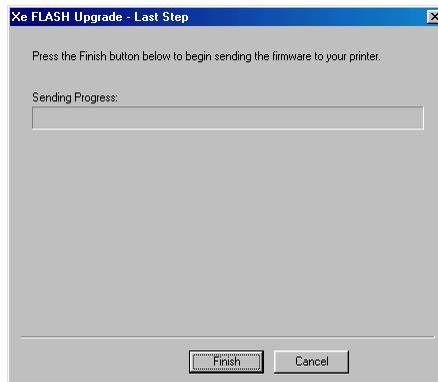
This last screen begins the actual upgrade process. Press the Finish button to begin the file transfer. All of the necessary files will be transmitted to the printer.
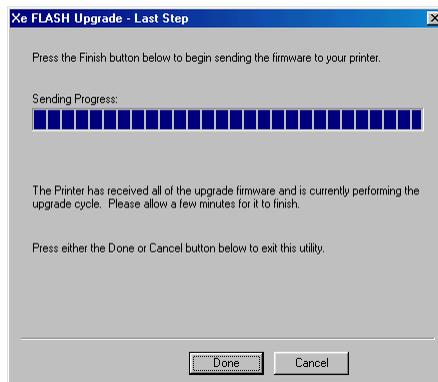
6 When the file transfer is complete, choose the Done or Cancel button on the display to exit the upgrade utility.

Upon receiving the last upgrade file, the printer will reset and display the following messages as it is performing the upgrade process:

Reading New Files
Erasing Flash
Programming Flash
OCR_A.BIN
etc . . .

When the upgrade is complete, the printer will reset again. Please verify the version displayed during the power-up sequence. Your printer will be ready to use.

Upgrading additional printers with the CompactFlash card

The CompactFlash card from the upgraded printer can then be used to quickly upgrade other printers. This feature is helpful if you have multiple printers that need to be upgraded.

On the next printer, turn the power on and hold in the SELECT key on the front panel. This sequence will place the printer into a "forced upgrade" mode. The following menus will appear:

> Forced Upgrade

> Insert CF Card and
>   Press SELECT Key

Insert the CompactFlash card that contains the upgrade files in the printer. Then press the SELECT key. The printer will reset and display the following messages as it is performing the upgrade process:

> Reading New Files
> Erasing Flash
> Programming Flash
> OCR_A.BIN
> etc . . .

When the upgrade is complete, the printer will reset again. Please verify the version displayed during the power-up sequence. Your printer will be ready to use.
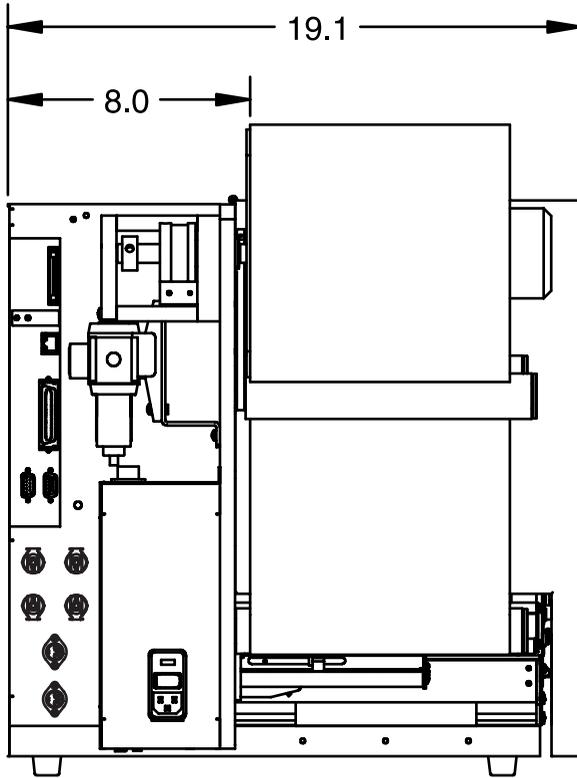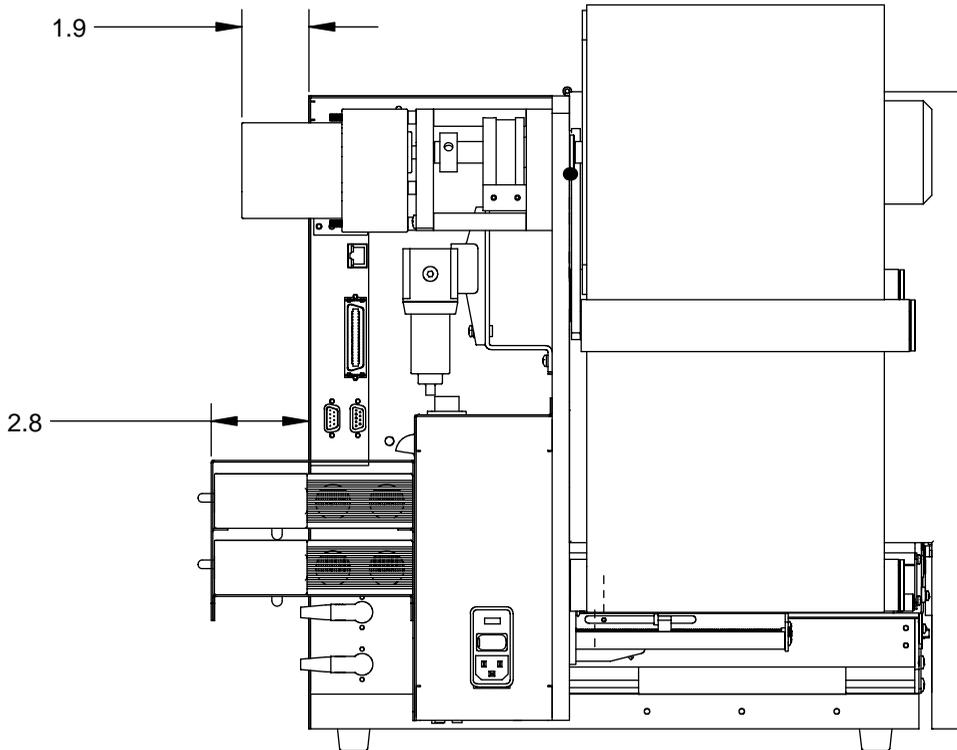
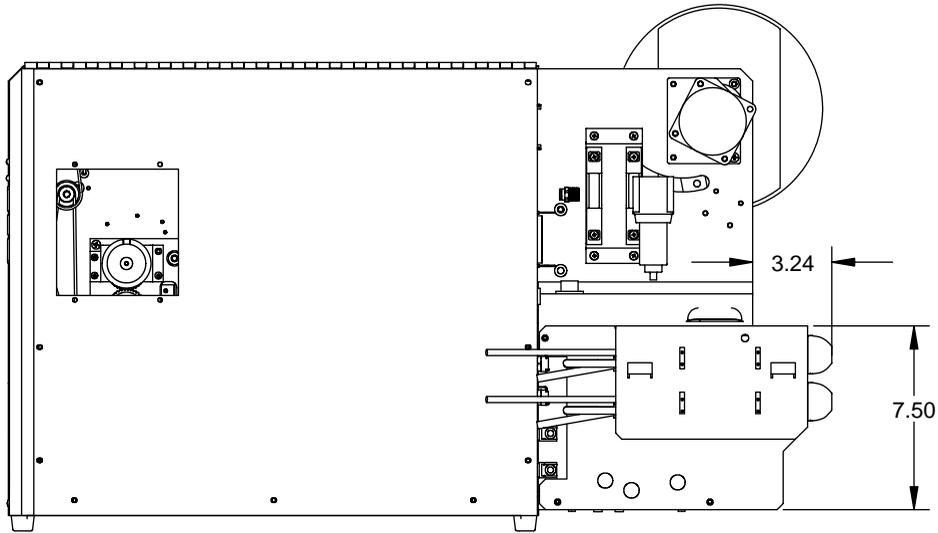# Appendix A:
Physical Data

QLS-8100 Xe Dimensions
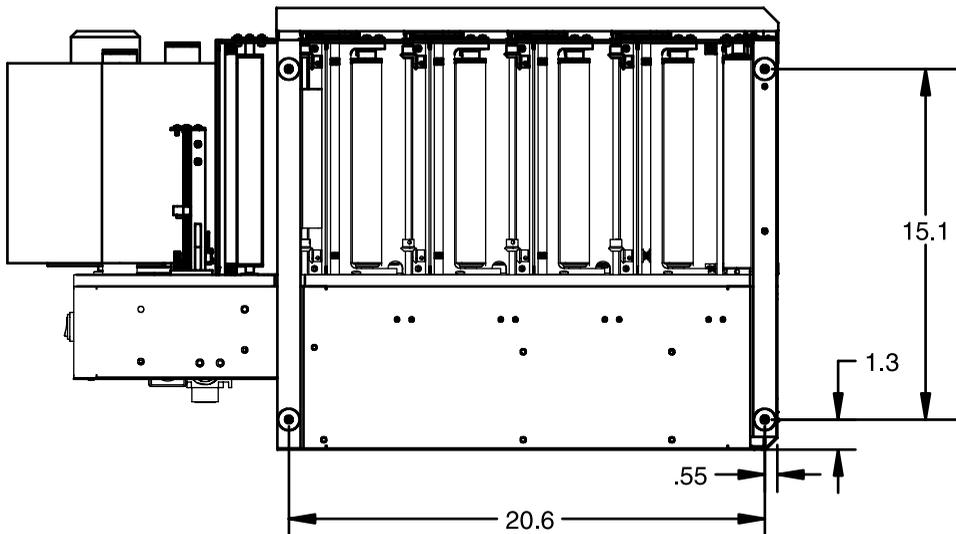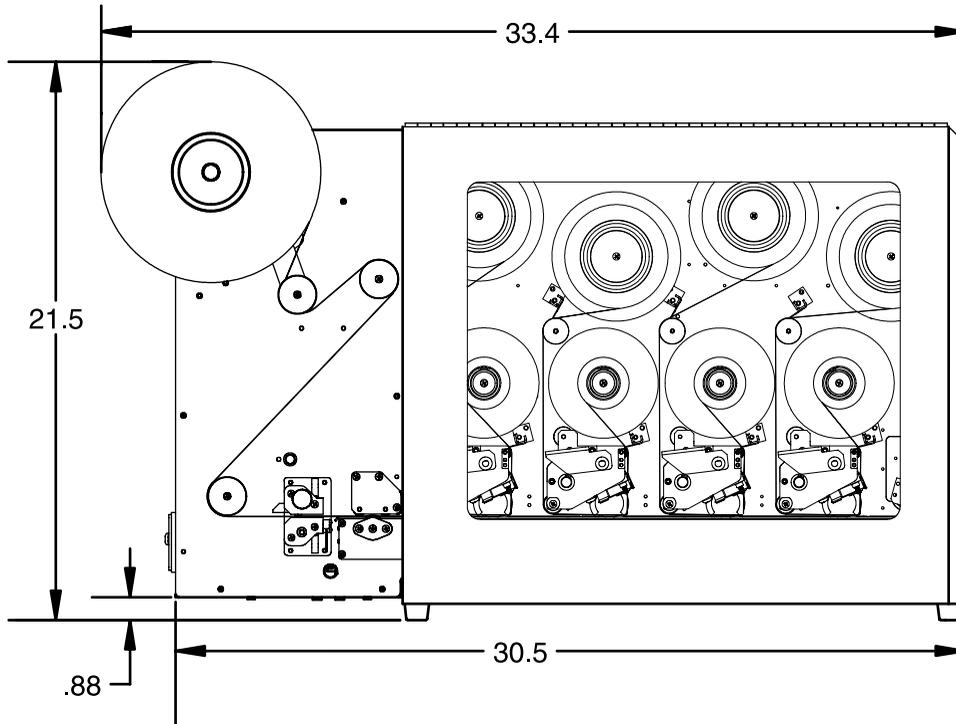
All dimensions are in inches
Printer shown without water cooling system installed

QLS-8100 Xe Dimensions

All dimensions are in inches
Printer shown without water cooling system installed

QLS-8100 Xe Dimensions

All dimensions are in inches
Printer shown with water cooling system installed

Appendix B: Specifications

QLS-8100 Xe Specifications

Printing Method   Thermal Transfer, Spot and CMYK Process Color

Print Stations   4 printheads

Registration Accuracy   +/- 1 dot typical (0.0030", 80 microns)

Ribbon Management   User selectable, patented RibbonRation™ systems conserves thermal transfer ribbon automatically using air-operated cylinders.

Resolution   300 dpi

Print Speed   2" (50 mm) - 5" (127 mm) per second

Maximum Print Area   Width: 8.3" (210.8 mm); Length: 60" (1,524 mm) with Windows® Driver; 30" (760 mm) with Color QuickLabel 99® Pro

Fonts   7 TrueType™ fonts resident; other TrueType™ fonts can be downloaded from your PC

Resident Barcodes   All Standard symbologies, including 2-Dimensional

Control Panel   Ergonomic Key Pad for Menu functions, Backlit LCD display

Connectivity   PC, AS/400®.
Parallel (IEEE-1284 Centronics), Serial (RS-232), Ethernet

Interface Software   Windows®-based
Printer Drivers included; Color QuickLabel 99® Pro Label Creation Suite (optional)

Color Halftoning   Printer optimized for MicroCell™ dot placement algorithm available in Windows® Driver and Color QuickLabel 99® Pro software

Memory   Standard 128 MB
4 Mb user-available fonts
4 Mb user-available bitmap images
Compact FLASH (Type 1) memory cards

Dimensions	24″ H x 24″ D x 38″ L (609.6 mm L x 609.6 mm D x 965.2 mm L)
Weight	185 lbs. (83.9 kg) - no media, no ribbons
Power Requirements	20/240 VAC, 50/60 Hz, 8.0/6.3A
Compressed Air	1 cfm @ 70 psi required to operate RibbonRation™ Use Male NPT Plug with 3/8″ body size. (not supplied with printer)

Thermal Transfer Ribbon

4 rolls, each 300 m long; Spot or CMYK
rolls

Label / Tag Size Width: 8.5″ Max. (216 mm), 5″ Min. (127 mm);
Length: 60″ Max. (1,524 mm), .5 Min. (12.7 mm)

Label / Tag Thickness 12 to 16 point Max.

Label / Tag Roll Capacity

8″ Max. Outside Diameter (203.2 mm)

Appendix C:
Replacement Parts

Replacement Parts

Part Number	Description
14076-101	**Printhead**
14039-901	**Drive Roll**
14039-701	**Platen Roller**
14041-202	**Pinch Roller**
14058-000	**Bearing Block Assembly (drive roll)**
14057-201	**Lever Printhead Lift (4)**
14057-301	**Lever Drive Roll Lift**
23701-211	**Belt Timing 3mm 211T**
23701-063	**Belt Timing 3mm 63T**
11540-008	**Fuse 8.0 A (110VAC)**
24034-002	**Fuse 6.3 A (220VAC)**
13832-000	**Cleaning Pads (case of 50)**
14050-050	Drive Shaft
14050-500	Drive Shaft Stub
RN1716	Drive Snap Ring (2)
14109-020	Collar (9)
14046-200	Shaft End Plate (5)
10609-016	#6 Pan Head Philips
13318-000	Leaf spring bracket for ribbon rewind mandrels
00058DA	Leaf spring bracket for label & ribbon unwind mandrels
25747-000	Motor Assy, Main
23682-030	Pulley, 30T 3MM
23682-215	Pulley, 15T 3MM
24847-000	Pulley, 56T 3MM
14099-000	Gas Spring, Drive Station
24878-000	Motor Assy, TTR (4)

Recommended spare parts are noted in bold.

Parts specifications are subject to change without notice.

Contact QuickLabel Systems Technical Support to identify the correct parts and obtain current pricing. Please have the serial number of your printer available.

Replacement Parts

Part Number	Description
12361-013	Slip Clutch, TTR (4)
26599-900	Encoder Cable Assy
26585-401	Pneumatic Cylinder Assy
26585-300	Valve Stack
14049-701	Sensor, Encoder Wheel
26599-100	Reflective Sensor Assy
26588-100	Harness, Printhead
26599-400	Harness, TTR Sensor
26599-500	Harness, Printhead Up Sensor
13830-000	Harness, DC Power
26599-300	Harness, Motor
42679-001	Controller, Assy PCB
42614-001	Power Supply
42455-001	Keypad, Assy PCB
25459-200	Display, LCD w/ harness
14193-032	Memory Card, 32Mb Compact Flash
24164-020	Cable, High Speed Parallel
24164-000	Cable, Serial
10787-001	Cord, Power

Parts specifications are subject to change without notice.

Contact QuickLabel Systems Technical Support to identify the correct parts and obtain current pricing. Please have the serial number of your printer available.

Appendix D:
# Color QuickLabel 99® Pro setup

Color QuickLabel 99 Pro setup

The following guide explains how to configure Color QuickLabel 99 Pro software for use with the QLS-8100 Xe printer. If you are using and older version of software (i.e. Color QuickLabel), please contact QuickLabel Systems for an upgrade.

## To configure Color QuickLabel 99 Pro from Create and Print:

Note: Skip to step 4 if you are configuring the Print application. Steps 1 - 3 are for configuring a new or existing label format in the Create application.

1   Open the File >> New Label... or File >> Label Setup... menu. The following screen will appear:
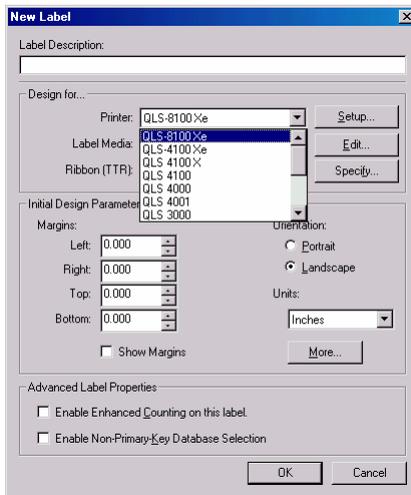
2   Select QLS 8100Xe from the Printer pull-down menu list.

3   Configure any other options as necessary, then click OK when finished.

4 Open the File >> Print Setup menu. The following screen will appear:
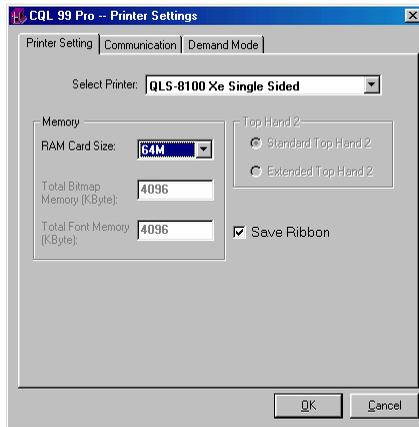
5 Choose QLS-8100Xe Single Sided from the Select Printer pull-down list.

6 Select the capacity of the memory card being used or none from the RAM Card Size pull-down list. This option is used only when set up for unidirectional communication.

Note: If *none* is selected, all images will be sent to an internal 4 Mb dedicated to images. All fonts will be sent to an internal 4 Mb memory dedicated to fonts. If your images/fonts exceed this capacity, some or all of the images/fonts may not print.

7 Place a check mark in the Save Ribbon box if RibbonRation™ will be used.

8 Click on the Communications tab. The following screen will appear:

9 Select the desired Printer Communication:

Bidirectional (recommended) - This option permits two-way communication with the printer. The printer will report status back to the host computer via the serial port connection. The parallel, serial, or ethernet port is used to transmit data to the printer.

Unidirectional - This option permits one-way communication with the printer. The printer status cannot be transmitted back to the host when using this communication method.

Network - Used to communicate with a printer in a networked environment. This is the optimal setting for a single printer with multiple users requiring queuing via the Windows print spooler. Printer status cannot be transmitted back to the host when using this communication method. The QuickLabel Systems Windows Printer Driver must be installed to use this communication mode.

Print to File - This communication method is used to generate ASCII label format files and binary image/font files. No communications interface connections are required when this option is selected.

10 Select the appropriate Printer Mode.

DUAL – Select this option for parallel and serial port connection.

LPT – Select this option for parallel-only connection.

COM – Select this option for serial-only connection.

TCP/IP – Select this option for an ethernet connection.

11 Select the appropriate Parallel Port, Serial Port, and TCP/IP settings as necessary.

Note: Color QuickLabel 99 Pro supports parallel ports LPT1 and LPT2 and serial ports COM1 and COM2. The maximum supported baud rate for the serial port is 38,400 baud. Hardware handshaking (DTR/DSR) is always used by default.

12 Click OK when all printer settings have been made.

Appendix E: Windows Printer Driver Setup

Windows Printer Driver Setup

The following guide explains how to configure the Windows Printer Driver for use with the QLS-8100 Xe printer.

To configure the Windows printer driver:

1 From the Start menu, select Settings >> Printers (Windows 98/Me/NT/2000) or Start >> Printers and Faxes (Windows XP).

Right click on the QLS-8100 Xe Windows printer driver and select Properties. The driver properties window will be displayed. If you are using Windows XP or 2000, choose the Printing Preferences button.

2 Click on the Page tab. Choose a pre-defined label size from the pull-down list or enter a label width and length for a custom size. Choose Portrait or Landscape to correspond to the desired orientation of the printed image. You may also enter a default number of copies and print offsets.
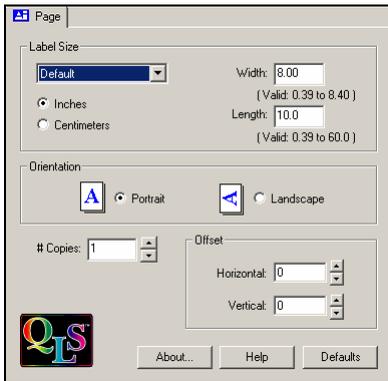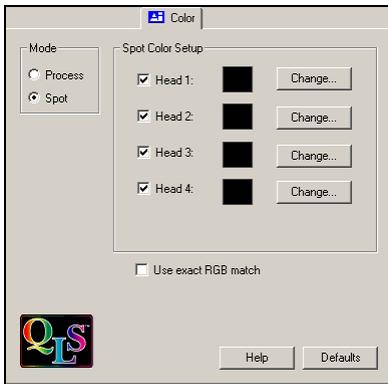
3 Click on the Graphics tab. Select the desired halftoning method for your image. A representation of the output effect each halftoning method will have is shown to the right. Generally speaking, Coarse, Medium, and Fine work best for line art and vector-based graphics such as clip art. Error Diffusion and Photographic are better suited for photographic images or images with fine details.
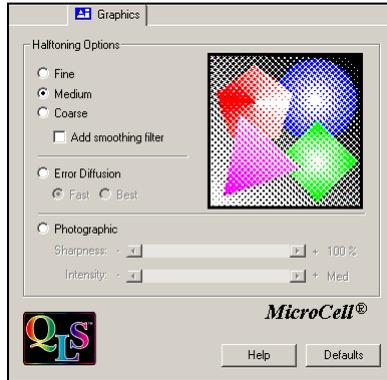
4   Click on the Color tab. Select Process or Spot depending on the mode of operation being used. If Process is chosen, select CMY or CMYK for the desired image separation method.
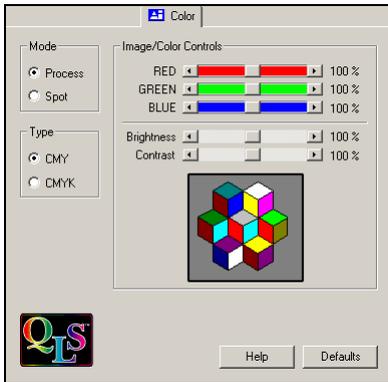
If Spot is chosen, you will be given the option to enable or disable each of the print stations by checking or unchecking the box next to each head. Click on the Change button to specify the color corresponding to your artwork that will be printed on each print station. Place a check mark in the Use Exact RGB Match box to print the colors only when your image colors are an exact match to those specified in the color setup.

5 Click on the Intensity & Speed tab. Select the desired default print intensities for each of the print stations and select the print speed.
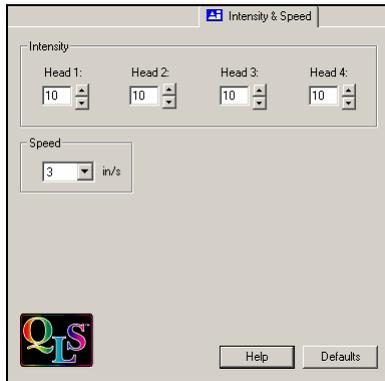

If the Print-Time menu is enabled, these default settings can be changed just prior to printing each print job.

6 If you are using Windows XP or 2000, choose the OK button to return to the QLS-8100 Xe Properties window.

**7**   Click on the Ports tab. Select the appropriate communication port that the printer is connected to from the pull-down list of available ports.
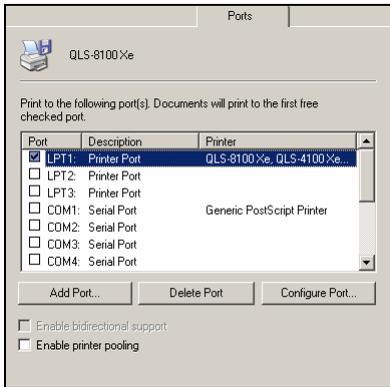
8   Click on the Device Options tab. If a Cutter or Cutter/Stacker option will be used, place a check mark in the Enable Cutter box. If RibbonRation will be used, place a check mark in the Enable Ribbon Ration box.
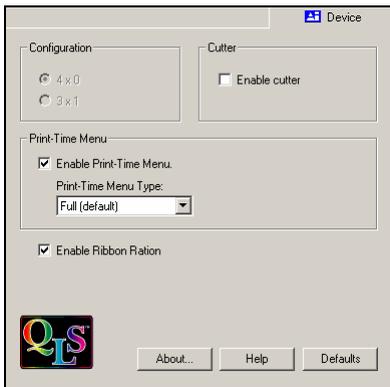
The Print-Time menu is enabled by placing a check mark in the Enable Print-Time Menu box. Doing so will result in a popup window appearing after a label. has been processed by the Windows application but prior to being sent to the printer. The Print-Time menu allows the user to change Print Intensity, Print Speed, Quantity, and Offsets just prior to printing. You may choose to display a full Print-Time menu (the default) or one which allows entry of print quantity only.
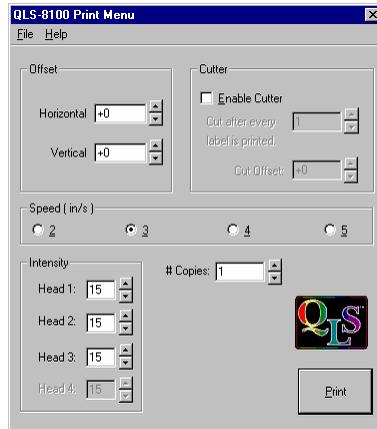
9 When the Print-Time menu is enabled, the processed image can be saved along with the print-time settings into a file which can later be recalled for printing. This is feature is useful for creating pre-processed label formats for printing in a production environment where you do not wish to have the operator make content changes to the printed label.

To save the processed label:
1 From the menu, select File >> Save Processed Image As...

2 In the Save As window that appears, enter a filename for the processed label.

Place a check mark in the Place shortcut on Desktop box if you would like to generate a convenient shortcut to the processed label.

Appendix F:
Format error codes

QLS-8100 Xe Format Error Codes

1   **Field X location error**
The X coordinate of a Set Field Location command (<STX>FLx,y) is out of bounds.

2   **Field Y location error**
The Y coordinate of a Set Field Location command (<STX>FLx,y) is out of bounds.

3   **Alphanumeric field font error**
The font parameter of a Define Alphanumeric Field Font command (<STX>AFfont,r,w,h,m) is invalid.

4   **Alphanumeric rotation error**
Valid rotations are 0, 90, 180, 270°.

5   **Alphanumeric character height error**
Valid settings for font height are 10 to 2000 for TrueType® fonts and 1 to 10 for bitmap fonts.

6   **Alphanumeric character width error**
The range for width values is the same as for height values.

7   **Bar-code field type error**
The barcode type value of a Define Bar-code Symbol command (<STX>BFtype,r,....) is out of bounds.

8   **Bar-code field rotation error**
Valid rotations are 0, 90, 180, 270°.

9   **Bar-code height error**
Bar-code height is out of bounds.

10   **Bar-code narrow element error**
The narrow element value in a Define Bar-code Symbol command is out of range.

11   **Bar-code wide element error**
The wide element value in a Define Bar-code Symbol command is out of range.

12   **Bar-code interpretation error**
The selection for enabling bar-code text interpretation is faulty.

13   Bar-code check digit error
The selection for enabling the bar-code check digit is faulty.

15   Bar-code interpretation width error
The range for width values is the same as for height values.

16   Bar-code interpretation height error
Valid settings for font height are 10 to 2000 for TrueType® fonts.

17   Bar-code interpretation font selection error
The font parameter of a Define Bar-code Symbol command
(<STX>BFn,...,i,...) is invalid.

18   Alphanumeric write method error
The AF command contains an invalid "write method" parameter
(must be "1").

20   Format command error
The structure of one or more label format commands is faulty. Some
examples would be:

- misplaced or missing delimiter
- invalid characters in the command string (e.g., <STX>FQ...)
- missing or faulty line termination (<lf><cr> rather than <cr><lf>)

21   Numeric value error
A numeric value in a format string is invalid. If a non-numeric string
is placed where the printer expects a numeric string, this error will
occur.

30   Label length error
The length parameter of the Set Label Length command is out of
range.

31   Batch count error
Acceptable batch count range is 1 to 100000.

32   Group count error
Acceptable group count range is 0 to 100000.

33   Serial copies error
Acceptable serial copies range is 1 to 100000.

35   Box width error
The width value of a graphics field is invalid.

36   **Box height error**
The height value of a graphics field is invalid.

37   **Line thickness error**
The value for line thickness in a graphics field is invalid.

38   **Print intensity error**
Valid print intensity settings are 1 to 32.

39   **Print speed error**
Valid print speeds are 2 to 5 inches per second.

50   **.PCX Bitmap error**
This error results from any of the following:

- Bad file format (not monochrome, not a .pcx file)
- File not present (may have stored to RAM and attempted to recall from card)

80   **.PCX Bitmap scale error**
Valid scale factors for .PCX graphics fields are 1 to 10.

81   **Code 49 start character error**
The value to enable start and stop characters in a Code 49 bar-code field is invalid.

82   **Code 49 group error**
The group size value is out of range.

83   **Code 49 symbol error**
The symbol specifier is invalid. (Refer to the Define Bar-code Symbol command for Code 49.)

84   **Reverse-image field association parameter error**
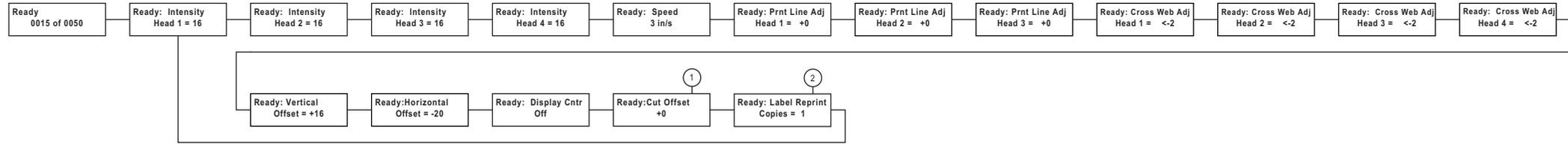The association parameter in the Define Reverse-Image Field command is invalid.

85   **Field data string error**
An invalid data string is part of the label format. Valid ASCII characters are from 20h to FFh, and all data fields must be terminated with an End Field Data command (<STX>FE). This error results from any of the following:

- Too much data (barcode, font, Data Matrix)
- Data Matrix symbol that extends off the label
- Bar-code field strings contain characters not supported by the chosen symbology.

86   **Print disable command error**
Print disable command contains invalid parameters (<STX PD).

87   **Field color error**
An invalid color number has been specified. Valid field colors range from 1 to 15.

88   **PDF417 security level error**
An invalid error correction (security) level has been specified for a PDF417 bar code.

89   **PDF417 reserved 1 error**
Must be 0

90   **PDF417 reserved 2 error**
Must be 0

91   **PDF417 reserved 3 error**
Must be 0

92   **UCC/EAN-128 composite error**
Invalid height of CC

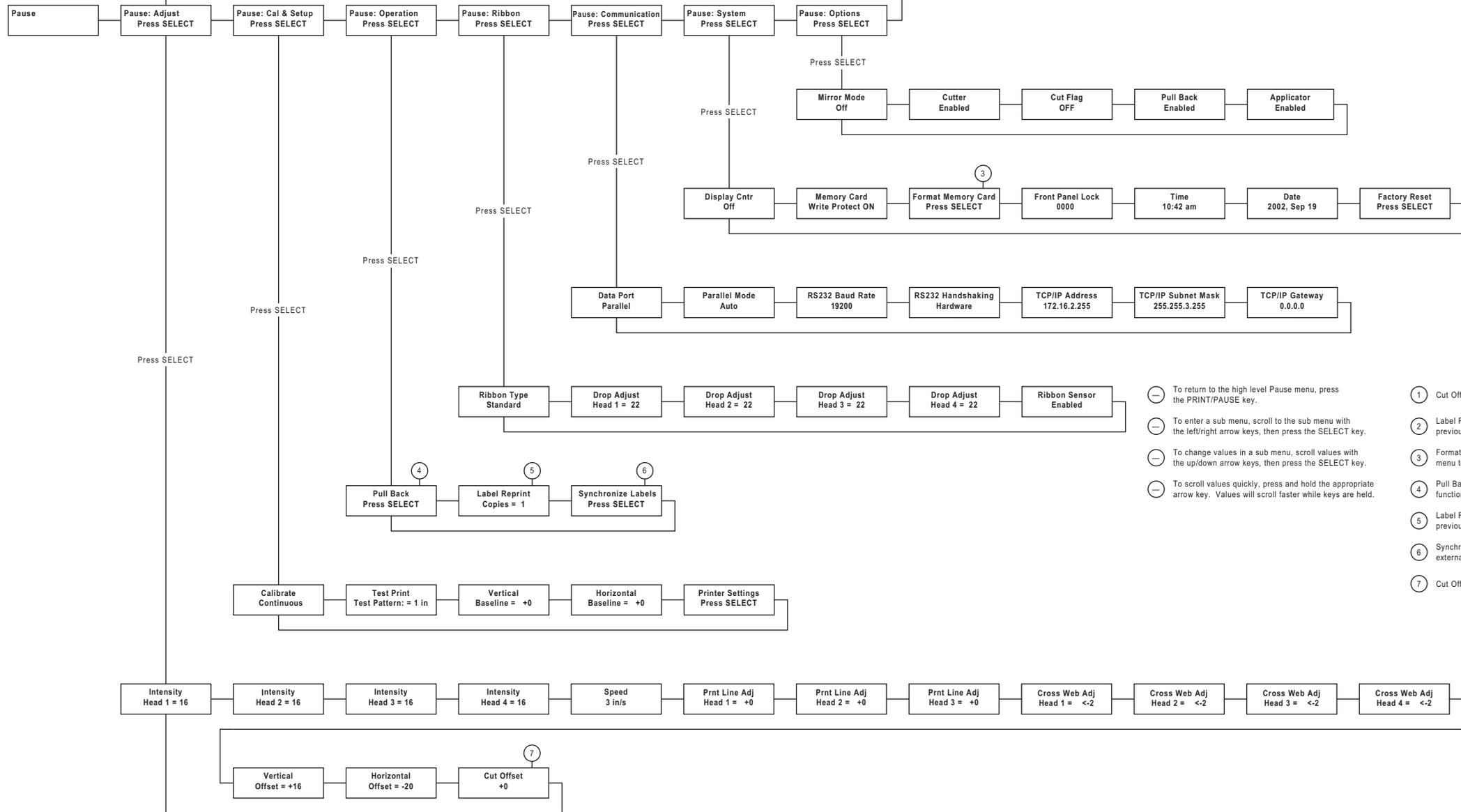# Appendix G:
Menu Structure

QLS-8100 Xe Menus

Ready State

| Ready 0015 of 0050 | Ready: Intensity Head 1 = 16 | Ready: Intensity Head 2 = 16 | Ready: Intensity Head 3 = 16 | Ready: Intensity Head 4 = 16 | Ready: Speed 3 in/s | Ready: Prnt Line Adj Head 1 = +0 | Ready: Prnt Line Adj Head 2 = +0 | Ready: Prnt Line Adj Head 3 = +0 | Ready: Cross Web Adj Head 1 = <-2 | Ready: Cross Web Adj Head 2 = <-2 | Ready: Cross Web Adj Head 3 = <-2 | Ready: Cross Web Adj Head 4 = <-2 |

| Ready: Vertical Offset = +16 | Ready:Horizontal Offset = -20 | Ready: Display Cntr Off | Ready:Cut Offset +0 ① | Ready: Label Reprint Copies = 1 ② |

Pause State

| Pause | Pause: Adjust Press SELECT | Pause: Cal & Setup Press SELECT | Pause: Operation Press SELECT | Pause: Ribbon Press SELECT | Pause: Communication Press SELECT | Pause: System Press SELECT | Pause: Options Press SELECT |

Press SELECT

| Mirror Mode Off | Cutter Enabled | Cut Flag OFF | Pull Back Enabled | Applicator Enabled |

Press SELECT

③

| Display Cntr Off | Memory Card Write Protect ON | Format Memory Card Press SELECT | Front Panel Lock 0000 | Time 10:42 am | Date 2002, Sep 19 | Factory Reset Press SELECT |

Press SELECT

| Data Port Parallel | Parallel Mode Auto | RS232 Baud Rate 19200 | RS232 Handshaking Hardware | TCP/IP Address 172.16.2.255 | TCP/IP Subnet Mask 255.255.3.255 | TCP/IP Gateway 0.0.0.0 |

Press SELECT

| Ribbon Type Standard | Drop Adjust Head 1 = 22 | Drop Adjust Head 2 = 22 | Drop Adjust Head 3 = 22 | Drop Adjust Head 4 = 22 | Ribbon Sensor Enabled |

Press SELECT

| Pull Back Press SELECT ④ | Label Reprint Copies = 1 ⑤ | Synchronize Labels Press SELECT ⑥ |

Press SELECT

| Calibrate Continuous | Test Print Test Pattern: = 1 in | Vertical Baseline = +0 | Horizontal Baseline = +0 | Printer Settings Press SELECT |

Press SELECT

| Intensity Head 1 = 16 | Intensity Head 2 = 16 | Intensity Head 3 = 16 | Intensity Head 4 = 16 | Speed 3 in/s | Prnt Line Adj Head 1 = +0 | Prnt Line Adj Head 2 = +0 | Prnt Line Adj Head 3 = +0 | Cross Web Adj Head 1 = <-2 | Cross Web Adj Head 2 = <-2 | Cross Web Adj Head 3 = <-2 | Cross Web Adj Head 4 = <-2 |

| Vertical Offset = +16 | Horizontal Offset = -20 | Cut Offset +0 ⑦ |

○ To return to the high level Pause menu, press the PRINT/PAUSE key.

○ To enter a sub menu, scroll to the sub menu with the left/right arrow keys, then press the SELECT key.

○ To change values in a sub menu, scroll values with the up/down arrow keys, then press the SELECT key.

○ To scroll values quickly, press and hold the appropriate arrow key. Values will scroll faster while keys are held.

① Cut Offset option appears only if Cutter is enabled.

② Label Reprint option appears only if a label was previously printed. (requires Windows driver)

③ Format Memory Card option provides a confirmation menu to prevent accidental formatting.

④ Pull Back option available only if the Pull Back function is enabled.

⑤ Label Reprint option available only if a label was previously printed. (requires Window driver)

⑥ Synchronize Labels option available only if an external applicator system is used.

⑦ Cut Offset option appears only if Cutter is enabled.

Index